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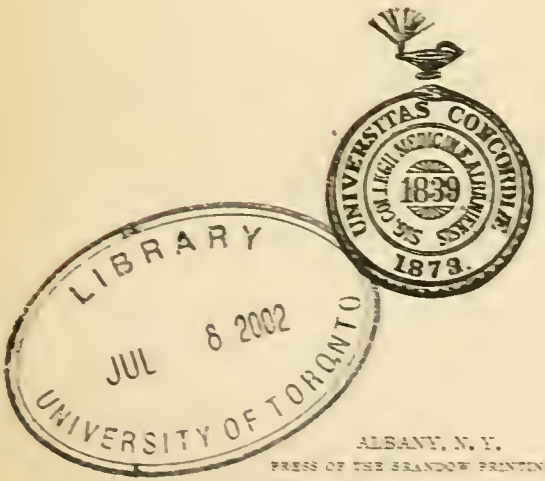
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ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

VOLUME XXXII

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ALBANY, N. Y.
PRESS OF THE BRANDOW PRINTING CO.
1908

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VOL. XXXII JANUARY, 1911 NO. 1

ALBANY MEDICAL ANNALS

Original Communications

PUBLIC HEALTH AND MUNICIPAL AUTHORITIES.

WHAT A HEALTH DEPARTMENT EXPECTS FROM MUNICIPAL AUTHORITIES.

An Address Delivered at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

BY EUGENE H. PORTER, A. M., M. D.,
Commissioner of Health of the State of New York.

It has been said that this is an age of science, and ours a nation of science. Observation has matured in measurement and passed from the qualitative to the quantitative, generalization is a habit and precision is becoming a commonplace in current life. More than all else the course of nature has come to be investigated in order that it may be controlled and re-directed along lines contributory to human welfare; invention has become a step towards creation, and is extending far beyond the merely mechanical and into the realms of the chemical and vital.

The advance in sanitation is an index of the progress of modern civilization. The development and application of sanitary law is the result of an increasing altruistic knowledge.

Behind every movement for civic improvement, back of every effort for social or economic betterment, may always be found the moral impulse that stirs to action. Sanitation, with all its wealth of scientific achievement, with all its earnest and able workers, would never have made such rapid advance without the aid of an aroused and partially emancipated public sentiment. When many men thinking independently come to the same conclusion, action is likely to follow, and when men so thinking demand facts and carefully weigh the evidence there is likely to be action along right lines. Education is the dynamite of our civilization. It has broken some of the follies of superstition and ignorance, and will break many more.

So education in sanitary science had not progressed very far before it was perceived that a great door had been opened for general betterment. Not merely stamping out of epidemics, the disposal of sewage or investigation of water supplies, important and urgently necessary as these are, but that wider field that embraces all that makes towards the absolute prevention of all misery and disease came clearly into view.

And so there came into being that great and increasing number of societies and organizations devoted entirely to changing the old order of things, working always for clean cities, clean homes, clean air, and also, therefore, for clean morals.

These societies that look after proper playgrounds, sufficient parks, decent tenements, pure food, clean streets, efficient factory supervision, protection of child labor, care of working women, pure water, tuberculosis, and many other things are all playing a most important part in the great struggle of the new against the old—of knowledge against ignorance. Deprived of the aid and strength of these auxiliaries sanitary science would have halted and stumbled much more than it has. These societies are almost always composed of laymen and not of trained sanitarians. This is most significant for it shows how rapidly education in sanitation is progressing.

If it is true that at times the enthusiasm of some of these lay workers remains untempered by judgment and that they seem to prefer occasionally to work against rather than with the health officials, and so miss the greatest possible effectiveness, yet that should count but little against the immense amount of good work they are doing. Their appearance and continuance is one of the most significant signs of the times.

But after all if we are to have this real sanitation, the sanitation of a wider view, we must widen the vision of the people. For the great problems before us in sanitary science must be solved by experts. The question then is not what will our laws do for us or our legislatures do for us, or our courts do for us. The question is what will our schools do for us? It comes to that in the last analysis. For if we are to reach our final goal we must have a greater efficiency, a greater sense of justice, a greater self-sacrifice that must come from a high type of citizenship. So the duties and responsibilities of a health department are not only changed but they are very greatly increased and constantly changing.

To cause the citizen to do the things he can and ought to do, and then do for him the things he can not do, but which should be done, is the duty of the State.

The entire system of health supervision and control is inseparably bound together. The highest efficiency can only be obtained by co-operation. The basis of this co-operation must be a general sympathetic and intelligent comprehension of methods adopted and results desired. This is precisely the relationship that should exist between the local health authorities and the State health authorities. When it is clearly seen that one can not hope to fully succeed without the other; when it is cordially recognized that interests are mutual; when antagonisms born of ignorance are replaced by the confidence that comes from wider vision; when political domination is stamped out, when none but competent and trained sanitarians possess authority in health matters, then will come that perfect adjustment and interrelationship of local and State health administrations that we are anxious to attain. Now I believe that the local health officer in nearly all cases, and the local board in some instances, are anxious to work in harmony with the State Department of Health. This would be indeed the expected and most natural thing for them to do. But experience teaches that in some cities and towns harmonious relations are difficult to establish or maintain. It has seemed to me that in most of these cases the difficulty lay in a lack of knowledge of the purposes and plans of the State Department on the part of the local authorities, and at times doubtless, the Department failed to get the right angle of vision when it viewed the local situation. And so I would put down as the first important requisite for a satisfactory relationship between local health authorities and State health authorities:

(1) Mutual Knowledge and Understanding.

The experiences of the Department in cases where its plans were not understood and where, as is generally the case, there existed a profound ignorance of the health law, have been both ludicrous and vexatious. We have been accused of violating the law in enforcing sanitary measures, and we have been charged with gross neglect of the law under exactly similar conditions; the commissioner has been termed a Czar and despot in some localities, and in others, while trying to effect the same results as in the first, he was called inefficient and spineless. Some cities have welcomed reports on their sanitary condition and adopted

at least some of the recommendations, while others have resented these reports as "attacks," and vigorously opposed their publication. Most cities and towns welcome our aid in times of trouble, but there are, and have been some who seem to think that our only desire was to cause them trouble and expense. This lack of understanding and consequent want of co-operation is a most deadly thing—it costs lives that could and should be saved, besides the always increased expense.

In one case, out of many, where the Department had made repeated investigations and inspections of a threatened water supply, and report after report, and letter after letter, urging immediate action had been sent to the health and other officials of that town—without result—typhoid fever came. Over one hundred cases and twenty-five deaths. The day will come when such neglect of plain sanitary duty, neglect that causes unnecessary and preventable death, will be looked upon and called by its right name—murder.

But I must not tarry. *The first thing then is to get together—to find out—to understand.*

(2) Politics and Waste.

I spoke just now of those towns that are fearful of the expense involved in any effort to better conditions. Economy in health matters is generally parsimony, born of ignorance and selfishness. This reluctance to expend reasonable sums for the public health is not a flattering reflection on our vaunted modern civilization. But we are learning. We have learned that if we allow our neighbor to dwell in foulness and filth some of us go with him over the great divide when the plague rages. But it is still true that in many places there is a strong disposition to hide the presence of contagious disease—to conceal the visitation of smallpox, diphtheria, typhoid or scarlet fever. This also is vanity and is the child once more of ignorance and selfishness. Ignorance that prompt action by efficient health authorities would limit and conquer the outbreak; selfishness, since before business interests could be allowed to suffer imaginary damage, innocent visitors and equally innocent citizens are exposed to the dangers of a contagious disease. In the end the cost is greatly increased by the policy of concealment.

And yet we must recognize that there exists some reason for this state of affairs.

The evidence is conclusive that in municipalities, counties,

states and the national government itself there is a vast and growing amount of extravagance, mismanagement and waste in the administration of public business that is now a burden to the country. The bonded indebtedness of American cities as a whole is increasing much more rapidly than municipal assets and the taxes for operating expenses are becoming more burdensome each year. In 1902 the percentage of the revenue of all the cities in the country to their debt was 37.3. By 1909 this percentage was decreased to 25.9. The net public debt of forty-nine cities, including New York, increased 47.71 per cent., while during the same period the increase in the assessed valuation of all the taxable property in these cities advanced but 12.66. It is certain that this course if continued will result in intolerable conditions. Many of our towns are now bonded to the limit. These are some of the reasons why appropriations for public health are difficult to secure, but they are not reasons to be proud of. Inefficiency in public service resulting in shameful waste of public funds is a burden the weight of which public health has in part at least to bear. I am not charging that dishonesty invariably exists in governmental affairs, but I do say that there is incapable business management, and that in large measure is the fault of the system and not of the men. So there is not enough money for the health departments, playgrounds, clean streets, pure water supply, proper sewage disposal and the other needed sanitary reforms. Turning away from further consideration of this question, we stumble over another burden of which we must rid ourselves if we would hope for desirable results.

Politics must be driven out and kept out of every health department, National, State or Municipal. If efficiency of health administration is to be expected politics must play no part. The men to serve the public health must be trained men. They must have had special and technical teaching fitting them for the duties required by the science of sanitation. The men to serve public health must be experienced men. They must be experienced in the practical workings of an actual health department. Laboratory methods and field investigations must be among their more familiar scientific acquisitions. The men to serve the public health must be studious, honest and energetic men.

It is evident that however well-meaning a politician might be, he would not very often be able to nominate for a health position a man possessed of the necessary qualifications. The tenure of

office in a health department should be dependent on efficiency and good behavior and on these alone. Should politics dominate the policies of local health authorities or should the State authorities be controlled by politicians, harmony of action would be impossible. The spirit, the essential and living force, would be dead and progress impossible.

The second point then is—To endeavor as citizens to lessen administrative waste so that health authorities may secure more adequate appropriations. Let our motto be Fewer Laws and Better Laws. And then eliminate all politics, for unless this is done the most efficient harmony of action is impossible.

The Power of Education:

But the combined administrative strength of all our health divisions, both State and municipal, will never reach its fullest efficiency—will never gain an entire cordiality of support from our people, until we invoke the power of education in sanitation.

We are just beginning to realize the lack of trained men among us. This is shown by the great difficulty of finding capable men to fill responsible positions. The preliminary training is wanting. When we turn to our schools throughout the country at large, we find we have a great educational machine, that does not train. It does not train men in the things related to the lives they must lead. The great mass of our citizens begin life's work when and where they can. They bring to this work a smattering of knowledge, very little of which is in any way directly applicable to the every day facts and practicalities of life. So the boy or girl in the country learns nothing of the science and art of agriculture, the thing that most deeply and vitally concerns their future lives; the boy in our city schools learns substantially nothing of the fundamental principles of the mechanic arts; and neither country nor city child is taught anything concerning disease and health. When we stop a moment to consider what wide significance of meaning, what great scope of utilitarian activities, is embraced to-day in the term public health; when we remember that its every day applications touch life at every angle, we are justified in demanding that our schools give this necessary life training. These are some of the things our boys and girls need to know and must know not only to save their own lives, but still more important, in order that they may as trained and intelligent citizens and sanitarians, save the lives of others.

The work of any health department to-day is regarded with

cold indifference by a majority of our citizens. Public sentiment is often opposed to very urgent and necessary sanitary measures. The present generation—untrained, uninformed and so in unregenerate contentment with present evils—is inert and unresponsive. The trouble is they do not understand. We can let the light shine on some of them but it is the children that we must get after. Teach the children of to-day and the fathers of to-morrow will enlist in the army of progress.

So in this campaign of education the State health authorities and the local health authorities meet again on common ground. By joining forces both together could do more effective sanitary educational work in one year than could be done by either alone, in five. I have no time for details but in such work the local authorities could take full charge of local arrangements including places of meeting, advertising, speakers, etc. The State Department would furnish expert lecturers, give illustrated talks, provide circulars, pamphlets and in short do all it could to promote the success of the campaign. It is a great field and we should not delay its cultivation.

So the third point I would make is—That we demand that sanitary science and public health be adequately and properly taught in all our schools and that we begin at once our own campaign of education among our people.

Contagious Diseases and Quarantine:

The State Health Department is at present striving to build up and perfect a Division of Communicable Diseases to the end that contagious diseases throughout the State, but especially in our smaller towns and villages, may be promptly and efficiently dealt with. The chief thing that hinders is lack of money. But while we can not as yet cover the entire State, we are ready to respond to calls for help. Once more we stand upon the same platform. Our common aim is to suppress communicable diseases and to do it swiftly.

Now in the case of an epidemic in any city, our services and resources are entirely at your disposal, if you need them. If the effect of our moral support is needed it is yours; if in emergencies toxins or antitoxin are urgently needed we will furnish all we can; if you desire aid in conducting investigations as to cause of disease or reports on existing conditions we will give all the help within our power. It seems very clear to me that the State and local authorities should work earnestly together in every

instance of outbreak of contagious diseases. And so my next point is—Unity of Effort in the Suppression of Epidemics. Water Supplies and Sewage Disposal:

If there are any questions the solution of which requires the hearty co-operation of both State and local authorities it is the adequate protection of public water supplies and the proper disposal of sewage.

These problems are not limited by the boundaries of particular localities. They may and generally do affect, in their solution, numerous other communities, in addition to the locality of origin. For the pollution of a stream may and often does affect people living along its banks for hundreds of miles. In certain cases it becomes an interstate question—as in the case of the pollution of the Delaware. In the final determination of these questions the State Health Department with its State-wide outlook, its special information of the particular conditions existing in the various communities, should be able to give most valuable and timely assistance. It has seemed to me at times that in no other line of health work has the attitude and policy of the Department been so misunderstood or so persistently misrepresented. Of course the misrepresentation in the main has been because of lack of knowledge; but based on this very want of information inferences were drawn and the sublimed postulate is that publication of inferences is not justified in equity.

Almost every town in the State of New York is to-day discharging raw sewage into some stream or lake. All the mills and manufacturing establishments in this State are discharging their waste products in our streams and our streams are burdened with more than they can take away. This is the present condition. Now we know what should be done in order to prevent the continuance of such dangerous and obnoxious pollution. Sanitary science has after many years of research work and experimentation afforded us a solution; and there is no longer any need nor excuse for a municipality to discharge its raw sewage where a menace to health or a nuisance can be thus avoided. To make clear the position of the Department I will quote very briefly from two addresses of mine given in 1908 and 1909 respectively.

In the former address I said:

"Before any intelligent or coherent steps in direction may

be taken concerning the purification of any stream, the entire watershed to which it belongs must be thoroughly studied.

"The sources of water, character of soil, number of villages and towns, population of such, conditions of sewage, conditions of water supply, manufacturing establishments and their various wastes, maximum and minimum flow of the main river and its tributaries, all these things and many more must be learned before it can be intelligently decided whether the single town above referred to shall or shall not be required to put in a sewage disposal plant. In other words, this work of the purification of our streams must proceed along broad and comprehensive lines. Otherwise it will make no permanent and satisfactory progress."

In the latter:

"Well, let us see about removing this pollution to-morrow—that was the point I wanted to speak of. It seems to me that this is a problem not to be solved in a moment. The follies of a century can not be corrected in a year. Municipalities now bonded and taxed almost to the limit can not, in a single day, undertake the installation of extensive sewer systems and sewage disposal plants. Mill owners who have invested millions of dollars, manufacturing establishments that employ thousands of people, upon whose industry whole towns depend, can not be expected to make such a total change in their process of manufactures as to get rid of waste in a day when we are utterly unable to tell them what to do with it.

"The pollution of our streams and our lakes must stop. Yes—it must stop—in time. In the meantime let us remember that time is the greatest factor in the solution of this problem.

"In 1875 the Royal Pollution Commission was appointed in England because they became aware then of the conditions and realized the danger in the pollution of their waters, and in the last report gotten out by this learned commission or the successor of it, you will read that they passed a resolution that they felt that now the time had arrived for a thorough and systematic study of the situation. We learn from them, do we not, that time is a factor that enters into this. Massachusetts said that after twenty years of effort the streams that were polluted then are polluted now, that what had been done so far was to prevent an increase of pollution."

This states clearly enough, it would seem, the policy of the Department. With a full realization of the enormity of the

present pollution of our waters, with an earnest determination to prevent further pollution, it also clearly recognizes the difficulties in the way of an immediate removal of the present discharge of wastes.

Each municipality presents its own particular problem. No two are precisely alike. I believe the wisest way to solve these questions is by the cordial co-operation of State and local health authorities. The division of sanitary engineering and the division of laboratory work both well equipped are entirely at the disposal of municipal authorities. They will in all cases give their best expert judgment and advice as promptly as possible.

The purpose of the bill designed to regulate pollution of streams, introduced during the last session of the Legislature, was widely misunderstood. It was prepared after several years of study; the laws of all other states and of foreign countries were carefully compared and the results attained noted; the conditions existing in our own State were thoroughly considered and the bill as drawn was the result. It had the approval of the leading sanitarians and sanitary engineers in the country.

Now this bill provided that after an investigation and after a hearing for all interested, the Commissioner of Health might issue an order requiring a town or a mill owner to cease discharging raw material in streams or waters of the State. *But* this order was unoperative unless approved by the Governor and Attorney-General of the State. I believed and I think that you do also, that there must be somewhere a restraining and controlling power, and that this power should be itself surely held within reasonable limits. This I believe the bill provided for. The actual operation of the bill would be to bring about closer relations between local and State health authorities, a joining together of resources and a mutual solving of difficult problems. In my judgment very few orders would ever be issued under the provisions of this bill. The point I would make here is then—The heartiest co-operation of municipal authorities and state health authorities in the protection of public water supplies and of sewage disposal.

Finally let me emphasize the fact that the business of the Department of Health of New York State is to aid you in health matters in every way possible. Our experts are yours; our laboratories are yours; our experience is yours. Let us get together and profiting by each other's knowledge, turn our combined wisdom to the benefit of the people of our State.

PUBLIC HEALTH AND THE MUNICIPAL AUTHORITIES FROM THE STANDPOINT OF THE MUNICIPAL OFFICER.

An Address Delivered at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

By CHARLES C. DURYEE, M. D.,

Mayor of Schenectady.

The health officers of the State of New York occupy a more important position in the mind of the people than perhaps those of any other State in the Union. The spectacle of forty-two out of forty-nine cities in the State being represented at a convention held within the year for the specific purpose of discussing only matters pertaining to public health, is one that is indeed inspiring and encouraging to those workers who are striving for ideal public health conditions. It is questionable whether before this conference some of the mayors realized they *had* a health department, or, if they did, they regarded it a department that was necessary for use only in times of epidemics and dire public health danger; but the discussions and addresses brought home to the executives and public officials of many of our cities and villages in the State of New York, the fact that the health department of any locality is one of its most important assets, and that it is constantly and consistently working at the keystone of the arch of municipal safety and comfort.

Many other activities in this State have conspired to increase the importance of health departments, notably the campaign against the great White Plague which is being waged so successfully throughout our State; the movement against the pollution of our rivers, lakes and streams so admirably and justly conducted by our State Department of Health; the spread of the knowledge that diseases, that were formerly considered non-communicable, are now known to be communicable and an increasing and better understanding of the manner of transmission.

Slowly but surely the importance of the health department is increasing in the public mind; its duties are becoming amplified, its responsibilities greater, and the growing confidence in health officers and health departments is becoming more evident day by day. In view of these circumstances the health officer should do more than heed the wishes of the community in which he

lives. He is to-day a leader, not a servile follower of public sentiment. He is a creator of public opinion. It becomes, therefore, the duty of every municipal officer to render such assistance to the health department as he may be able to bring about the conservation of public health in his community and compel that community to keep step with the drum beats of progress.

In the first place the municipal officer should aid the health department by a sincere and active co-operation. I include in this the officials of all the departments and bureaus of cities and all other similar agencies in towns and villages.

The police department can be of great service to the department of health in co-operating in the observation of conditions and the enforcement of laws and regulations. The patrolman as he covers his beat comes in contact with many conditions that might not otherwise be reported to the health department, and the mere fact that the patrolman is paying attention to those things that make for better public health is an inspiration to the citizens along his beat.

The fire department, too, in many ways can contribute not alone to the removal of unwholesome health conditions, but by precept and example may assist in spreading the health propaganda.

The bureaus of the department of public works can aid by actively co-operating with all the movements toward the betterment of public health, as for instance in the proper cleaning of streets, sanitary care of public buildings, proper disposal of garbage and sewage, and the maintaining of a pure and wholesome supply of water.

The executive of a city should extend a sympathetic and helpful support. The mayors of cities and presidents of villages have within their hands the greatest power to enhance and increase in value all the activities of a health department.

The duties of the health officer should be viewed by all municipal officials as being practically the same as that of an inspecting officer in the army. In fact there is not a department or bureau in the city, executive, legislative, charitable, public safety, or public works, in which some part of their duties does not touch shoulder to shoulder those of the health officer. Every public official in some way is a health conservator, with the health officer as the leader. It, therefore, seems to me that the attitude of all municipal officials toward the health department should be more than

casual, and should reveal a sense of co-operation as wide as the conditions may permit. The health officer should be looked upon as an expert in conservation of public health whose advice on many of the subjects that tend to make a city fit to live in, may be wisely and frequently solicited.

Recently, I said that " when we realize that it is probable that within a short time fifty per cent. of all diseases will be placed in the column of preventable diseases, it should be clear to us that the attention given to public health matters should bring to the health department its true and proper position; that the best talent, both scientific and executive, should be placed in the control of such departments, and that niggardly and insufficient appropriations to the departments of health should be no longer tolerated.

" No one who has watched the generous appropriations accorded the police and fire departments of municipalities will regret such liberal assistance. Important as are these departments, the great bulk of their work is directed toward the preservation of property and protection of society. The police department is, perhaps, the oldest of all municipal activities, and is as ancient as government itself. The health department in any organized and permanent sense is one of the youngest of municipal activities. The health department must deal more directly with the conservation of human life. Its equipment should be broader and better. The money appropriated for its use should not be extravagantly expended, but no consideration of mere money should stop the saving of the infant and child, and the preservation of the family during its period of greatest productiveness, and the protection and preservation of life on its downward way.

" It is, of course, impossible to make any accurate measurement of the value to the community of these three departments; all are admittedly essential. A question which would doubtless arise in the mind of most persons upon hearing this topic is whether the oldest of these departments, by virtue of its age, and by reason of the strength of tradition, may have retained an undue importance in the matter of facilities, men, and appropriations, as compared with the younger departments. How does the work of these two departments in its value to the community and the duties imposed upon them by statute, compare with the equipment, men and means placed at their disposal, respectively?

"Compared with the two other departments, the health department is woefully undermanned and under equipped. Its aim is the protection of the community from evils that are widespread, ever present, and comparatively little understood. The economic waste arising from the loss of human life through preventable disease, which our health departments could overcome, is vastly greater than the economic loss arising from crime and disorder, or from fire. Laying aside for the moment the question of sentiment, questions as to the value which should be placed upon human life, questions as to our duty individually and socially, to take all practicable steps for the protection of human life, irrespective of its economic value, is it not clear that purely as an investment of public funds the health authorities are entitled to a much larger proportion of the city's resources? We are apt to forget the actual money value of human life."

In this way, and by these means, all municipal health officers should seek to bring about a wise application of the recent knowledge which has been so potential in promoting the health of communities in this country, in order that the division of municipal government which is so important to the creation of conditions of public health and comfort, which are the essential features of a modern city, may be accomplished. The city in the future will depend to a greater extent than now on municipal health control for the preservation of human life, the greatest of all national assets, and should therefore make it the aim to give greater consideration to all efforts for the promotion of efficiency along these lines.

The ideal city is not one in which the beautiful alone is considered, but one in which there is a combination of health and beauty, and this can be obtained only by what we may term team work on the part of all municipal officials, with the health officer as the leader, backed up by an enlightened and educated public. For without the assistance of the citizens of a city and their moral support, no campaigns for cleanliness, decency and health can be effected. The competition among cities is to-day of such a character that no city may expect to be successful without giving ample consideration to all the conditions that tend to promote its public health. Co-operation of officials should be voluntary and active; co-operation of the people can be easily obtained by education. I have thus indicated briefly some of the ways in which all municipal officers can lend their powerful aid in raising

the standard and solving the problems of the living conditions in a community. If this plan is carried out it will make for greater economy of energy in the administration of public affairs by avoiding duplication of effort.

THE MANAGEMENT OF PNEUMONIA.

Read before the New Haven Medical Association, December 21, 1910.

By REYNOLD WEBB WILCOX, M. D., LL. D.,

Formerly Professor of Medicine at the New York Post-Graduate Medical School and Hospital: Consulting Physician to St. Mark's and to the Nassau Hospitals.

One might almost commence a paper upon this somewhat trite subject with an apology, were it not for the fact that its interest is perennial and this is shared by physician, surgeon and specialist alike. Experience as presiding officer of several medical societies, convinces me that there is hardly a subject which commands closer attention and more extended discussion than this. It would appear that the last word should have been said and yet with a considerable degree of frequency one meets in the journals historical studies, chiefly based upon hospital records however, which would seem to indicate that our efforts toward a reduction of the mortality, have been comparatively futile. As these conclusions reach the public at large they are commented upon in disparagement of our assumed medical progress and produce an ultimate result in our profession itself in the choice of an expectant treatment, a gloomy prognosis and at times a faint-hearted entrance upon some plan of treatment.

As for hospital statistics, these prove but little beyond the fact that patients have died from pneumonia. The mortality will always remain far higher than that of private practice and higher even than that of consultation experience. The reasons are not far to seek; the treatment in hospitals is, to considerable extent, one of routine, carried out by inexperienced men under insufficient direction and control. The class of patients preclude exact knowledge of the individual, and pneumonia is the terminal morbid process determining the death of a subject already doomed by reason of advanced organic disease affecting vital organs. The death rate of pneumonia in hospitals, disheartening as it is when considered from the standpoint of loss of human

life, would be still more discouraging if the results as published are to be accepted as a basis for prognosis, or as accurate data indicating the results of modern therapy.

The gloom of the hospital dead-house must not enter the sick room nor diminish courage nor limit the confidence of the physician in the resources of the healing art and his ability to properly apply them.

Defining pneumonia as an acute, infectious inflammation of the parenchyma of the lungs, with exudate and characterized by a chill, fever, dyspnœa, rusty sputum, and prostration, we may assign as the specific causes either the *micrococcus lanceolatus* or the pneumococcus determined by Fränkel, in 1882, to be the more frequent germ of this disease or the *bacillus pneumoniæ,* the pneumobacillus of Friedländer, discovered in 1883, or both of these together or other and different bacteria, notably the *bacillus influenzæ,* discovered by Pfeiffer, in 1892. Almost invariably associated with these in the sputum are streptococci, staphylococci, and various other organisms, constituting a mixed infection.

To secure greater accuracy in diagnosis and more exact indications for treatment, it is well to bear in mind certain clinical varieties of the disease. Apical pneumonia is likely to be more productive of cerebral symptoms and greater prostration. The area involved may be slight and the pulmonary symptoms insignificant. Creeping or migratory pneumonia successively invades other portions of the lung, often without resolution in the parts previously infected; it is common in the influenzal type. Massive or fulminating pneumonia offers no physical signs excepting flatness; the exudate fills alveoli, bronchioles, and bronchi. Central penumonia gives rise to many errors because the physical signs are not demonstrable, often for several days. Infantile pneumonia is marked by convulsions, and other cerebral symptoms, later followed by coma, suggesting meningitis. Senile pneumonia may not set in with a chill, the temperature may not be elevated, cough and expectoration often are slight. Alcoholic pneumonia is often unsuspected, since pain, cough and expectoration may be absent and the dyspnœa is slight. It may be confounded with delirium tremens or the latter condition may complicate it. Terminal pneumonia is often encountered in many other infectious diseases. Ether pneumonia is now happily less frequent, since more attention is given to anæsthesia, the patient

properly protected during operation, and the time of it shortened. This form generally presents well marked physical signs.

As general rules to be observed with each patient, most important is strict confinement to bed; the patient should not be allowed to rise for any consideration. This prohibition should also include even sitting up in bed to avoid the possibility of syncope which may readily be fatal. The clothing should be of flannel and so arranged as to permit thorough examination of all portions of the chest. The room should be large, containing at least five thousand cubic feet of air space, should be light, well ventilated, and kept at a temperature 70° F. The open air treatment is claimed to possess the following advantages: less delirium and restlessness and consequently more sleep, less dyspnœa because cold air stimulates respiration and, being more dense, supplies more oxygen in proportion to its volume, and therefore, less cyanosis, the mental state is clearer, food is better digested and there is less tympanites. If these effects are produced an improvement in the pulse is expected with improved circulation and probably increased excretion of toxins by the kidneys. The acknowledged objections to this plan are, the cold air causes a marked increase of cough, the inconvenience to patient and attendants is great and temperature regulation is impossible. A limited experience led to its abandonment and a substitution for it of a constant inside temperature of 60° F. in a room as already described. The advantages are fully equal to those claimed for outdoor treatment and the untoward effects of it are obviated. The room should neither be so dark that objects cannot be clearly distinguished, nor the lights so bright that they are fatiguing to the eyes. Improper lighting often increases the delirium, especially in alcoholic subjects.

After recovery of the patient the room should be disinfected by nascent formaldehyde gas. The sputum should be received on absorbent cotton or on squares of cheese cloth which should be burned, or in cups containing a five per cent. phenal solution. At the outset, calomel followed by a saline is employed to cleanse the bowels and thereafter a daily movement is secured using the official compound solution of sodium phosphate when necessary.

Medicinal treatment is directed towards the accomplishment of three ends. The first is the limitation of the infection. In the pneumococcic, pneumobacillary and, to a less degree, in influenzal types of the disease, this is best accomplished by creosote car-

bonate. Although theoretically, it is upon guaiacol that we place our reliance, experience tends to show that no preparation of either guaiacol or of creosote, nor even creosote itself, can take the place of this preparation, in reaching proper dosage or in avoiding untoward effects. The value of the remedy is believed to be demonstrated by the increased percentage of patients in whom crisis, instead of lysis occurs, upon the earlier dates of this crisis and upon the incidence of milder systemic disturbances, more prompt recovery and a lower mortality. The dosage is from two to six, or even twelve drachms in the twenty-four hours, at six-hour intervals. It may be administered pure, in capsules, in sherry or suspended by agitation in milk. In spite of large doses, it does not, as a rule, disturb digestion, in fact, tympanites a frequent and annoying symptom of pneumonia, is almost invariably absent when the remedy is administered. As for the kidneys, smoky urine is frequent but albumin and casts, indicating acute irritation of the kidney, are not observed. However, it is only fair to state that the evidences of previous chronic renal impairment should be sought for and, if found, should call increased vigilance and, if necessary, a diminished dose. Eleven years' observation of a large number of patients under various conditions, is the basis for the statements concerning creosote carbonate. This form of treatment is of especial value in apical pneumonias which produce sepsis out of all proportion to the area of lung involved.

In pneumonias of the grippal type, often of the migratory variety, creosote carbonate sometimes is less efficient than in those just mentioned. Here ten grains of quinine carbamide, hypodermatically, in one dose for each twenty-four hours, with the same quantity of antipyrine salicylate every two or three hours, usually checks the extension and the temperature will usually reach the normal in from six to ten days. Guaiacol carbonate is generally necessary to clear up the later manifestations of the mixed infection.

Of all the serums which have been lauded during the past few years, it is believed that none have escaped attention and experimentation. Thus far, no results have been obtained so convincing that the use of any of these has been continued. The explanation probably lies in the varying causative agent and the varying proportional toxicity of the factors in mixed infections. However, more recently the problems of active immunity are

approaching solution, and the hope may be entertained that perhaps we may be in possession of a method of treatment as nearly direct as is that of diphtheria. In doses, subcutaneously injected, of one hundred millions of killed bacteria of the same species as that producing the disease, once daily, the immunizing machinery of the body may be sufficiently stimulated so that the opsonins may be produced in adequate amount to the end that the acute pneumococcic infection may be relieved, removed or modified. The difficulty which suggests itself is that of determining the opsonic index which depends so much upon personal equation. Should this administration of autogenous pneumococcus vaccines produce the results hoped for, we shall certainly be in a position to produce an active immunity and not only reduce the death-rate, but as well shorten the duration of the disease. Up to this time, however, the death-rate is not so low as under other methods.

Secondly, the circulatory disturbances, due to mechanical obstruction, require attention. The dangers from the heart have always received attention from the clinician. Bleeding the patient into his own veins by use of the nitrites which markedly lower the systemic and but slightly the pulmonary circulation, relieves the right heart. Glyceryl nitrate is evanescent in its effects and sodium nitrite is unreliable as found in the pharmacies, and for these reasons, it is recommended that erythrol tetranitrate, in maximum dose of one-half of a grain be given, at least, every six hours. For cardiac stimulation strychnine nitrate in dose of from one-sixtieth to one-fifteenth of a grain should be given every four to six hours. This can be combined with the erythrol tetranitrate and administered hypodermatically if desired. The method of working out the circulatory problem is as follows: Watching the pulmonic second sound which normally, excepting in children, represents one-third of the arterial tension of the aortic, one finds this accentuated in pneumonia. So long as the right heart, stimulated or not as the case may be, by strychnine, is able to overcome the increased resistance in the pulmonary artery, and favorable circulatory conditions are maintained by the nitrites, there need be no apprehension as to the capability of the heart to meet the emergency. If the accentuation of the pulmonic second sound is lost, one of two alternatives must be considered; acute dilatation of the right ventricle

or crisis. The temperature chart gives the answer without further investigation of physical signs.

In spite of the fact that Welch found it difficult to experimentally raise the blood pressure and Wood, Jr., showed that nitroglycerin and various influences, as asphyxia, caused a slight elevation of pressure in the pulmonary artery, this method of using a direct cardiac stimulant and a vaso-dilator has undoubtedly saved many lives which would otherwise have been lost through acute dilatation of the right ventricle and consequent paralysis. It must be understood that so long as the second pulmonic sound is accentuated and the pulse volume and tension are good, no cardio-vascular remedies are needed.

In senile pneumonia we have as important factors to consider the cardiac weakness and tendency to pulmonary stasis. Free stimulation is absolutely necessary and the best results are obtained from ten grains of ammonium carbonate in two ounces of milk as frequently as every two hours, if necessary. This remedy will disturb digestion after three or four days, but, fortunately its use need not be so prolonged. The patient must not be allowed to lie in one position, but be turned from one side to the other several times daily. Opium, including all derived alkaloids, is absolutely prohibited.

The problems in alcoholic pneumonia are confessedly difficult, whether we find them in the fat beer or the lean whiskey drinker, and it is often difficult to determine whether the condition is pneumonia engrafted upon delirium tremens or the delirium is a symptom of pneumonia. Nor is the question of diagnosis of so much importance for the widespread structural changes in important organs are often sufficient to make the prognosis, even in less formidable diseases than pneumonia, an unfavorable one. An extensive experience among hospital alcoholics, has led to only one conclusion, that whatever else may be done, alcohol must be given with a free hand and gauged according to the patient's condition, a quart in the twenty-four hours is by no means unusual. In private practice far better results can be obtained and the cerebral symptoms can be largely controlled by the use of a bromide, especially that of strontium, in sixty grain doses, by the rectum, and repeated.

One encounters in the literature frequent advocacy of the use of veratrum viride as a remedy which will jugulate the disease. These statements are usually made by men of broad clinical experience and of careful observation and are entitled to considera-

tion. These results seem to be best obtained in rural communities, when pneumonia attacks young or middle-aged individuals in previously good physical condition, and further when the remedy is employed early in the disease. In urban practice, however, it would seem that the physical condition of the patients and the period of the disease at which the consultant, at least, sees them, precludes any extensive employment of this remedy. Quite recently Kahrs has presented a careful clinical report, based upon the use of aconite in from one-fourth to one-half the normal dose, ten minims of the tincture every three hours, until the stage of congestion is passed. It will be noted, however, that following this guaiacol carbonate is given in ten grain doses every three hours until the crisis is reached. Although it is evident that emphasis is placed upon the use of aconite in the early part of the disease, the results are sufficiently favorable to merit a trial of this plan.

The third important question is that of elimination of the products of the bacteria causing the disease. By far the best method is that of high rectal irrigations, eight inch rectal tube, three feet elevation of the reservoir, of normal (0.9 per cent.) saline solution, one gallon given once or twice daily, at a temperature not less than 112° F. and often preferably at 118° F. This not only provokes diuresis and stimulates the heart, but cleanses the intestine and, to some extent, produces diapheresis. In order to secure daily movements of the bowels one-sixth grain doses of calomel, every hour for six doses, followed by a saline as suggested above, may be employed and should intestinal fœtor be noted, three to six grains of zinc phenolsulphonate, every two to four hours, may be employed. Under the creosote treatment intestinal putrefaction and tympanites are rarely noted, and the bowels require no attention after the first evacuation.

In fulminating pneumonia, if it be of large extent, therapeusis is of little avail, but if not more than one-third of the pulmonary area is involved, in addition to the other measures recommended, oxygen should be inhaled continuously. If that containing a trifling amount of nitrous monoxide be employed, the annoying dryness of the mouth and throat will be obviated. Fortunately, death from asphyxia is rare and oxygen is not frequently demanded.

Happily, ether pneumonia, owing to the insistence of physicians, is becoming more rare. In place of strychnine, caffeine,

preferably as the sodio-benzoate, should be employed in two-grain doses, often at two-hour intervals. The renal excretion must be closely watched and high intestinal irrigations are frequently necessary.

In infantile pneumonia lumbar puncture is sometimes necessary to establish the diagnosis. The cerebral symptoms usually yield to a free use of the bromides and coma may be treated either by lumbar puncture or high intestinal irrigations, preferably the latter.

Terminal pneumonias are of importance subsidiary to the underlying pathological conditions. They call for treatment as varied as the primary morbid processes, for the organs diseased are usually multiple, and their discussion would lead us so far afield.

Local applications which interfere with the patient's comfort should be avoided. A pneumonia jacket of cotton-batting, overlaid by oiled silk, is pleasing to many. If pleuritic pain is present a layer of cataplasma kaolini spread over the chest, a square of thin muslin intervening, and retained in place with layers from a roller bandage, often affords relief. Or a liniment of equal parts of menthol, hydrated chloral and camphor, triturated to liquefaction, well rubbed in at the seat of pain and covered with absorbent cotton, is also useful.

The headache and delirium may be mitigated by use of the ice-cap. The high temperature is relieved by sponging the patient, one part at a time, with equal parts of alcohol and water. As a hygienic measure this should be done once daily. The vigorous hydriatic measures have but little influence upon either the severity or duration of the disease. Considerable experience in their use and analysis of the results obtained, led to their abandonment.

The labial herpes quickly heals after dusting with zinc stearate.

The mouth should be cleaned twice daily and the teeth brushed with a mixture of equal parts of the solutions of lime water and hydrogen dioxide.

A cough which is out of all proportion to the amount of expectoration raised is usually relieved by liquefying the sputum. This can be accomplished by one thirty-second of a grain of apomorphine hydrochloride as may be required, but never at less than two-hour intervals, or by seven grains of ammonium chloride every five hours.

The diet in robust individuals is of comparatively little importance, considering the duration of the disease. Milk, preferably peptonized or diluted with vichy or lime water, or the fermented milk, koumys or matzoon, should be our chief reliance. The preparations of the meats in the form of extracts may be allowed. Specifically, the diet for debilitated individuals, may be worked out as follows: Food to the value of two-thousand calorics per day is sufficient. One quart of milk represents about six hundred and fifty calorics. If milk is to be exclusively relied upon, over three quarts per day must be employed; this is too large a quantity of fluid for the average pneumonia patient to ingest, for, if eight ounces be the average quantity ingested at one time, twelve feedings would be necessary, the intervals being two hours, both day and night, which entails too much disturbance of rest. To secure all the nourishment needed, one-half of this quantity, given at four or six hour intervals, is sufficient. The needed additional supply can be obtained by eggs, with the milk as egg-nog or as custards, or farinaceous food may be substituted as blanc-mange. At all events, no more than eight ounces of bulk should be ingested at any one time. Farinaceous food will not cause tympanites during the administration of creosote.

Markedly effervescent liquids should be avoided, and this is accomplished by allowing the vichy or fermented milks to stand for a few minutes before administration.

Success in the management of pneumonia depends on:

1. It is as important to know what sort of an individual has the disease as what disease he is suffering from.

2. No one has ever treated a "case of pneumonia" but a person suffering from this disease.

3. All therapeutic measures must be considered broadly as to method, remedy, disease and patient.

4. Too much pessimism maketh sick the heart of the clinician.

Taking all into consideration, the treatment of pneumonia is especially satisfactory. In fine we should rely upon:

1. The continuous, persistent and generous administration of creosote carbonate.

2. Careful adjustment of mechanical conditions.

3. Thorough evacuation of toxins by all possible means.

4. Supplemental oxygen by inhalation, when required.

5. Liquid diet until all physical signs disappear.

Editorial

> My physician showed more anxiety in regard to my condition than his professional duty required. He trembled for me and not on account of the honor of his art. He did not content himself merely with prescribing drugs; he administered them with his own hand. He comforted my troubled relatives. During the critical periods he was at my bedside. Nothing was too much for him; the most difficult and most revolting services were as nothing to him. To this man I do not only owe thanks as to a physician, but also as to a friend. How could I ever compensate him for all this?
>
> L. Seneca.
>
> *De Beneficiis, L. vi.*

✠ ✠ ✠

"606" and the Eye

For the last few months the medical press has rung with the merits of the new remedy for syphilis discovered by Professor Ehrlich, of Berlin. This arsenical preparation (of which the dose is from 0.3 to 0.6 grammes by injection) has been called "606," since its polysyllabic name, dioxydiamido-arseno-benzol, is too cumbersome for everyday use, and also because it was the 606th product experimented with by indefatigable Professor Ehrlich. It is stated to contain forty-one per cent. of arsenic. Its effects, as reported from Berlin, are simply wonderful in controlling and in curing the manifestations of syphilis, irrespective of stage. Especially striking is the action on so-called "malignant" syphilis. Cases intolerant to mercury yield readily to arseno-benzol. Indeed, it seems impossible to doubt that in this preparation we possess a potent remedy for the treatment of syphilis. The Wassermann reaction, positive prior to the injection of "606," is stated to become negative afterwards. A note of warning, however, has been sounded by Professor Bouchard, of Paris. That authority has declared that preparation "606," has already caused numerous deaths. Even in Berlin itself, according to the *Medical Press and Circular* (September 21, 1910), "many unfortunate experiences have followed the administration of 606." It is advisable therefore to remember that there may be a reverse to the shield.

That "606" should be employed sooner or later in affections of the eye was inevitable.

The first article describes the meeting of the Berlin Medical Society on June 22d, when a full-dress discussion was held dealing with the new remedy. It recounts the search by Ehrlich and Hata after some arsenical preparation which should exert no evil effects upon the optic nerve, and yet should be efficacious against the poison of syphilis. The product discovered by those observers was found by experiment on animals to cure spirillosis perfectly in doses which represented a hundredth part only of a toxic dose. The remedy was then handed over to Alt, director of the Insane Asylum at Uechtspringe, for experiment on man. The report was that in "606" we had a remedy of great value and one that was apparently free from noxious influence. By other speakers, as Wechselmann, Schreiber and Michaelis, it was stated that even in inveterate casess of syphilis, the symptoms had disappeared in a few days after a single injection of 0.6 gram. After the injection the Wassermann reaction became negative, and had not become positive again in any of the cases so treated.

(2) Von Grosz holds that, while arsenobenzol is strictly indicated in syphilitic affections in the eye, it should not be employed in cases of simple atrophy of the optic nerve, any more than mercury, which in the latter cases, has often been found to act detrimentally. He followed Wechselmann's directions in preparing the drug for injection. Fourteen cases were treated, namely, conjunctival chancre (1), iritis (3), kerato-iritis (1), sclesitis (1), choroidoretinis (2), and interstitial keratitis (6), In all these cases the new remedy proved exteremely efficacious. Unpleasant effects were absent.

(3) A general review of S. Fradkyng of "606" with particular reference to its employment in eye work by Neisser (optic neuritis with muscular paralysis and interstitial keratitis), Wechselmann (optic neuritis, kerato-iritis ptosos and paresis of external ocular muscles), Gluck (interstitial keratitis, iritis, and optic atrophy), Dorr (diplopia), Hoffmann (exophthalmia and paresis of oblique muscles), Igersheimer (interstitial keratitis), Axenfeld (syphiloma iridis), and Michaelis (pre-ataxic symptoms).

(4) In five cases of parenchymatous keratitis, caused by hereditary syphilis, in which the Wassermann reaction was positive, Lindenmeyer had used an injection of "606." The carefully neutralized suspension was injected into the upper-outer

quadrant of the gluteal muscle. Except for the first case, in which violent pains were experienced for about an hour after the operation, no noteworthy troubles were observed. A slight increase of temperature was noted during the first two or three days, All the cases treated by the new remedy had already been submitted to an inunction cure, some of them on several occasions. In four of the cases there had been marked photophobia before the injection. For the most part the eyes were only half-opened, and were very sensitive to light during examination. The photophobia had nearly completely disappeared sometimes ten hours, but certainly twenty-four hours after the injection. The eyes could then be well opened under focal illumination. No result as regards the corneal process itself has so far been observed, but, then, the period of observation has been too short to allow of a trustworthy opinion being formed on this point.

CULVER.

(1) *Ehrlich's new antisyphilitic remedy. American Journal of Ophthalmology, August* 1910.

(2) *Arsenobenzol (Ehrlich's 606) in syphilitic affections of the eye (Arsenobenzol gegen syphilitische Augenleiden)*; EMIL VON GOETZ: (*Deutsche medicinische Wochenschrift*, 15 Sept. 1910).

(3) "606" *and its value in eye-work.* (*Le* "606" *et sa valeur en oculistique*). S. FRADKYNG. (*La Clinique Ophtalmologique*, 10 Oct. 1910).

(4) *Experiences with Ehrlich-Hata. (Ophthalmologische Ehrfahrungen mit Ehrlich-Hata)*, LINDENMAYER, H. (*Muenschener medicinische Wochenschrift*, No. 43, and *Wochenschrift uer Terapie und Hygiene des Auges*, 3 Nov. 1910).

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, NOVEMBER, 1910.

Deaths.

Consumption	15
Typhoid fever	0
Scarlet fever	0
Measles	0
Whooping-cough	1
Diphtheria and croup	2
Grippe	3
Diarrheal diseases	1
Pneumonia	10
Broncho-pneumonia	0
Bright's disease	14
Apoplexy	12

Cancer	10
Accidents and violence	5
Deaths over 70 years	35
Deaths under 1 year	10
Total deaths	138
Death rate	16.78
Death rate less non-residents	14.95

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	5	7
County House	4	1
Homeopathic Hospital	6	2
Child's Hospital	0	0
Public places	1	0
Hospital for Incurables	1	0
House of Good Shepherd	0	0
Little Sisters of the Poor	2	0
St. Margaret's House	0	0
St. Peter's Hospital	4	3
St. Frances de Sayles Orphan Asylum	1	0
Austin Maternity Hospital	0	0
Albany Hospital, Tuberculosis Pavilion	1	2
Confederation of Labor	0	0
Totals	25	15
Births	110	
Still births	5	
Premature births	1	

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred thirty-three inspections made of which one hundred were of old houses and one hundred thirty-three of new houses. There were fifty-two iron drains laid, twenty-nine connections to street sewers, twenty-nine tile drains, fifty-seven cesspools, one hundred sixty-nine wash basins, one hundred five sinks, one hundred sixty-six bath tubs, eighty wash trays, one trap hopper, two hundred twelve tank closets. There were one hundred seventy-eight permits issued of which one hundred forty-eight were for plumbing and thirty for building purposes. There were forty-four plans submitted of which one was for an old building and forty-three for new buildings. Thirty-eight houses were tested, one with blue or red, two with peppermint and there were thirty-five water tests. Twenty-two houses were examined on complaint and thirty-six were re-examined. Sixteen complaints were found to be valid and six without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	3
Scarlet fever	15
Diphtheria and croup	20
Chickenpox	2
Infantile paralysis	3
Measles	1
Whooping-cough	0
Consumption	42
Total	86

Contagious Disease in Relation to Public Schools.

	D.	S. F.
Public School No. 4	1	.....
Public School No. 6	....	5
Public School No. 7	1	1
Public School No. 11	1	.....
Public School No. 12	2	.....
Public School No. 14	1	.....
Public School No. 17	....	1
Public School No. 22	....	1
St. Joseph's Academy	....	2
St. Patrick's School	2	.....

Number of days quarantine for diphtheria:
Longest..... 32 Shortest..... 6 Average..... 15 4/17
Number of days quarantine for scarlet fever:
Longest..... 33 Shortest..... 24 Average..... 28 1/2
Fumigations:
Houses..... 44 Rooms..... 164

Cases of diphtheria reported	20
Cases of diphtheria in which antitoxin was used	19
Cases of diphtheria in which it was not used	1
Deaths after use of antitoxin	2

Bender Laboratory Report on Tuberculosis.

Positive	8
Negative	8
Failed	0
Total	16

TUBERCULOSIS.

Living cases on record November 1, 1910		352
Reported during November:		
By telephone	0	
By Bender	0	
By card	15	
	15	
Dead cases reported by certificate	5	
		20
		372
Dead cases previously reported	10	
Dead cases not previously reported	5	
Duplicates	1	
Removed	4	
Unaccounted for	2	
		22
Living cases on record December 1, 1910		350
Total tuberculosis death certificates filed November		16
Out of town cases dying in Albany Hospital	1	....
Out of town cases dying in County Hospital	1	....
		2
Net city tuberculosis deaths		14

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	21
Initial negative	71
Release positive	15
Release negative	66
Failed	26
Total	199
Test of sputum for tuberculosis:	
Initial positive	23
Initial negative	29
Failed	1
Total	53

BUREAU OF MARKETS.

Public market inspections	27
Market reinspections	22
Rendering plant inspections	1
Fish markets inspected	3
Fish peddlers inspected	1
Pork packing houses inspected	2

Miscellaneous.	
Mercantile certificates issued to children	22
Factory certificates issued to children	11
Children's birth records on file	33
Number of written complaints of nuisances	45
Privy vaults	9
Plumbing	19
Other miscellaneous complaints	17
Cases assigned to health physicians	83
Calls made	242
Total number of dead animals removed	527

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nursing—Statistics for November, 1910.—Number of new cases, 138; classified as follows: Dispensary patients receiving home care, 5; district cases reported by health physicians, 8; charity cases reported by other physicians, 49; moderate income patients, 76; old cases still under treatment, 142; total number of cases under nursing care during month, 280. Classification of diseases for the new cases: Medical, 52; surgical, 10; obstetrical under professional care, mothers, 36, infants, 26; eye and ear, 2; skin, 2; contagious diseases in the medical list, 22; removed to hospital, 3; deaths, 9.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 3; medical students in attendance, 5; guild nurses in attendance, 7; patients, 5; visits by head obstetrician, 2; visits by attending obstetrician, 4; visits by students, 52; visits by nurses, 127; total number of visits for this department. 185.

Visits of Guild Nurses—(all departments) Number of visits with nursing treatment, 1,656; for professional supervision of convalescents, 316; total number of visits, 1,972; cases reported to the Guild by five health physicians and forty-five other physicians, graduate nurses 8, and pupil nurses 13 on duty.

Dispensary Report.—Number of clinics held, 89; number of new patients, 125; number of old patients, 375. Classification of clinics held: Surgical, 12; nose and throat, 8; eye and ear, 16; lung, 17; nervous, 0; skin and genito-urinary, 9; stomach, 3; medical, 11; children's, 9; gynecological, 7.

New Site for Medical College.—At the meeting of the faculty and teaching staff of the Albany Medical College held December 22d preliminary steps were taken to acquire the site now occupied by the penitentiary on Delaware avenue for the erection of a new medical college.

A formal petition directed to the county legislators was shaped asking the board to transfer to the board of governors of the college the land desired in order to erect an institution that would uphold the dignity and record of the University. Dr. Richmond's address was, in part, as follows: "I am glad to see this evidence of the keen interest which is felt in the plan of securing new buildings for the medical college. The fact that the medical college has done such admirable work in the past is always a matter of pride, but the fact that we are to-day doing the best work we have ever done gives us a feeling not only of pride, but of encouragement and great hope. The demands of medical education are increasing every year and these demands are not only for a more perfect training in specific subjects, but also for a broader training in general subjects. It must not be a question as to whether medicine is a learned profession, and I may say that there is a grave danger lest all of our so-called learned professions lose their right to this honorable title. It is because we have this in mind that I feel so strongly the advantage of keeping the professional schools closely associated with institutions of learning, and it is for this reason that I desire to make the relations between the Albany Medical school and the University as close as possible. I am not looking merely at the present but into the future. This neighborhood is a natural center for an educational institution of great magnitude and of enormous influence, and I am glad to come here as the president of Union College and chancellor of the university to offer you any help at my command to further the enlarging interest of the medical college, not only for its own sake, but for the sake of the university of which it is a part. Dr. Vander Veer spoke on the early history of the college, the progress made and outlined many advantages of the proposed new site. Dr. Tucker drew attention to the fact that the quality and number of the students had decidedly increased and that the institution financially was in good condition, but because of the need of expansion and the opportunity of acquiring the proper site that now presented, he urged in a most enthusiastic manner the proposed change.

Trustees Have Nucleus of a Building Fund and Will Erect a Fine New Home if the Lease of Site Desired Can Be Secured.—At a meeting of the board of trustees of the Albany Medical College this noon a memorial was addressed to the people of the city and county of Albany asking them "to grant the penitentiary property to the uses of the college." This will be followed by the sending of a personal letter to each member of the board of supervisors, and at the session of the board a committee representing both the faculty and trustees pleaded the cause of the college. The meeting to-day was held in the office of Simon W. Rosendale and was attended by Chancellor Charles A. Richmond of Union university, and many friends of the college.

The trustees point out that the college can no longer be assured a highly honored place among the schools of medicine unless a new building is provided, and argue that it has made Albany the center of medical and surgical practice for a large territory practically without endowment.

The trustees now have the nucleus of a building fund and say they can raise money to erect and equip a modern school if the site is conveyed. The penitentiary site is desired because of its proximity to the Albany Hospital and the Bender Laboratory, and because the grounds are so large that the college could in no way be an offense to neighbors.

Dr. Albert Vander Veer, in discussing the matter, said that the college through its long and honorable career has given Albany a wide reputation and has brought many students here to contribute to the city's business houses and institutions. He expressed the hope that the people of Albany county would at least permit the supervisors to lease the property to the college at a nominal sum to be used exclusively for educational purposes. If the supervisors take favorable action the penitentiary will have to be razed for the new school buildings and a new jail erected for the use of the county.

The Memorial.

"ALBANY, *December 22*, 1910.

"*To the People of the City and County of Albany:*

"The Albany Medical College is an old and honorable Albany institution. The necessity for enlarged facilities for carrying on its work, compels us to appeal to you for aid. Chartered in 1839, its beginnings recall the public-spirited teachings of Doctors March and Armsby for almost twenty years previous, in conducting their private schools of anatomy and surgery. In these seventy years it has graduated 2,732 physicians, many of whom have filled important positions in our national and state institutional work, others as teachers in medical colleges, and as attending physicians and surgeons in various hospitals. It has done more, for it has uplifted medical practice; given much service to the public, and ministered to the needs of the people in all the country round about. It could not have been established and done what it has done without the aid of many men whose names have become household words in Albany, and its immediate vicinity, nor without their financial support, as well as that of the city itself.

"Practically without endowment, it has had to depend upon tuition fees. In recent years it has had to stand comparison with large and well provided schools; and, now, the scientific basis which medicine and surgery have attained demands not only modern buildings, with costly equipments, but also more experts who can give their time exclusively to research and to teaching. The physicians and surgeons of the city expect to continue their professional service, and give yet more than that to the college, but they are driven to declare that the institution can no longer be assured a highly honored place among schools of medicine, and cannot be made a permanent institution of the city without more and very considerable public and private aid.

"Some might entertain a question as to whether medical education is not sufficiently provided for in the schools connected with the small number of leading universities in the country. We have no such question. Albany has become the center of medical and surgical practice for a

large territory, including, not only New York but the New England states as well. This is essentially the result of the work of the Albany Medical college. The young men who intend studying medicine are entitled to be provided for at the center of such a large home territory as this, and it is much to the interest of the people in this territory that this shall be continued. Young, but ambitious men, in moderate circumstances, very often make the best students and the most successful practitioners. It is very desirable that they be educated in an institution not too remote from their homes; not so large as to prevent immediate relations between teachers and students, and not so situated financially as to feel obliged to close its doors against promising students because they cannot pay large tuition fees. It should not be forgotten that the quality of much the greater part of medical and surgical service, in the large territory of which Albany is the center, must continue to be vitally dependent upon the Albany Medical College. This college has bravely enlarged its offerings and its equipment in recent years, and with the assistance, which, as it seems to us the people of this city and county fairly owe to it, and may easily give it, it will be able to stand all rivalries and look forward with confidence to a long future as honorable and useful as its past has been.

"The financial loss to the county in conducting the penitentiary plant; the need of a new jail nearer the city and county buildings; the fact that the penitentiary grounds are large enough for use by the Medical college, without offense to any neighbors, and the near proximity to the Albany Hospital, and the Bender Hygienic Laboratory; with easy transit by trolleys to St. Peter's Hospital, the Child's Hospital, and the South End Dispensary (institutions in which most of the clinical work of the college is given), moves the authorities of the Medical College to ask the people of the city and county of Albany if they cannot see their way clear to grant the penitentiary property to the uses of te college. If this can be done, the old buildings must be demolished, for they are really no longer suitable for any modern purpose, and new structures erected. The trustees and faculty, however, will have the courage to undertake the raising of the needed funds for the new buildings if they may start with the knowledge that the penitentiary site can be had for the permanent location of the Albany Medical College."

The Signers.—Those who signed the appeal are: Trustees of the college —Alden Chester, Simon W. Rosendale, Charles A. Richmond, Charles Gibson, Luther H. Tucker, Jr., Walter L. Palmer, John M. Bigelow, James B. McEwan, Clifford D. Gregory, Amasa J. Parker, J. Sheldon Frost, James D. Wasson, Charles Van Benthuysen, Robert C. Pruyn.

Members of the teaching force.—Samuel B. Ward, A. Vander Veer, Willis G. Tucker, Howard Van Rensselaer, Joseph D. Craig, Andrew MacFarlane, Arthur G. Root, Leo H. Neuman, Geo. Gustave Lempe, J. W. Wiltse, Arthur F. Holding, Arthur Sautter, H. Judson Lipes, A. H. Traver, Arthur W. Elting, Arthur J. Bedell, George E. Beilby, C. B. Hawn, T. F. Doescher, Jerome Myers, C. D. Partridge, B. K. De Voe, J. W. Rooney, Charles H. Moore, Joseph A. Lanahan, Henry L. K. Shaw,

J. L. Donhauser, S. R. Morrow, F. C. Curtis, John H. Gutmann, Gerald Griffin, H. E. Lomas, Victor C. Meyers, Louis LeBrun, Ellis Kellert, Erastus Corning, William A. Larkin, James P. Boyd, Edgar A. Vander Veer, James N. Vander Veer, W. A. Reynolds.

The following letter has been sent to the physicians of Albany county:

"My Dear Doctor.—As you have probably seen by the newspapers, the Albany penitentiary has been condemned by the State authorities as a penal institution and has become from its location and size, such a financial burden to taxpayers as a county toll that the necessity of its disposal and the erection of a smaller and more accessible building for the county purposes is a county necessity.

"The Albany Medical College from the constantly increasing number of its students and the greater demand for the enlarged quarters, for more developed laboratory instruction has outgrown its present building.

"The psychological moment is here. The Albany Medical College as you know has done good faithful honest work without endowment and no support from the city and wants to do still better work. Those who know feel that if the proper site is secured there will be no trouble in securing from the Alumni, teaching body and friends of the institution at least $100,000 for the construction of buildings which will reflect credit on the city and the medical profession. Won't you do your share? *See at once* the supervisor from your ward and any other supervisor whom you may know, secure his support and vote for this proposition. Report the result at once to the Secretary of the Publicity Committee.

"He who acts promptly accomplishes tenfold.

"With best wishes of the season,

"Yours respectfully,

"ALBERT VANDER VEER,
"ANDREW MacFARLANE,
"JOHN H. GUTMANN,

"Secretary of Publicity Committee, 223 State Street, Albany, N. Y."

Medical Society of the County of Rensselaer.—The annual meeting of the Medical Society of the county of Rensselaer was held December 15th, at 8.30 p. m., in the County Court House, Troy, N. Y. Program—"The Therapeutic Value of Ehrlichs 606," by Dr. William S. Gottheil, New York; "When Should the General Practitioner Measure the Blood Pressure," by Dr. Theodore C. Janeway, New York. At the close of the meeting members aand guests adjourned to the Troy club where lunch was served.

Medical Society of the County of Schenectady.—The annual meetiing of the Medical Society of the county of Schenectady was held at the Mohawk Golf Club, Tuesday, December 13, at 8.30 p. m. Scientific program. President's address, by Dr. William P. Faust.

The Montreal Medical Journal will discontinue with the current December number, an arrangement having been made whereby the editorial staff of the Journal becomes associated with the Canadian Medical Association.

War on Tuberculosis.—The New York State Federation of Women's Clubs in convention at Ithaca, N. Y., recently passed resolutions declaring its unqualified support of the campaign which the State Charities Aid Association is conducting in co-operation with the State Department of Health. The Federation represents a total of 260 clubs with a combined membership of 125,000.

Exhibition on Infant Mortality.—During the week of December 12th, this exhibition which formed one of the instructive features of the recent meeting of the American Association for the Prevention of Infant Mortality at Baltimore, was held at the Rensselaer Street Mission, Albany, N. Y. Dr. H. L. K. Shaw had charge of the exhibit. Picture films portraying the manner in which disease may be transmitted were shown as well as slides illustrating Infant's Milk Depots and "Consultations" in this country and Europe.

American Society of Sanitary and Moral Prophylaxis.—A meeting of this society was held Thursday December 22, at 8.30 p. m., at the New York Academy of Music. Papers were presented by Professors E. R. A. Seligman and Felix Adler on the Sanitary Supervision of Prostitution. The subject of the Control of Venereal Diseases by the Health Department was discussed by Drs. Abraham Jacobi, Stephen Smith, Thomas Darlington, and Eugene H. Porter, State Commissioner of Health.

How Life Goes On In a Hospital Ward.—In the *New York Sunday Times* of November 27th, an article appeared giving the experience of a business man who had been recently confined in one of the New York City hospitals. It commends the service and after going into detail regarding the routine of life in such an institution, advises those who object to a hospital and others who complain of hospital care to look into the question and be convinced that many ideas now held are wrong and that the ward patients receive the same care and attention as those who have private rooms.

Street Disinfection.—In Poughkeepsie, N. Y., a plan is on foot to test the efficacy of disinfection of the streets by sprinkling with a solution of corrosive sublimate.

Dentists for the Navy.—The House Committee on Naval Affairs has favorably reported the bill introduced a year ago by Representative Dawson, of Iowa, establishing a dental corps in the navy. The measure creates a corps of thirty, who, it is provided, shall enter the service as acting assistant surgeons. In eleven years the thirty will automatically resolve themselves into one lieutenant-commander, four passed assistant surgeons, and twenty-five assistant surgeons. The age limit for entrance is from twenty-four to thirty-two years.

National Confederation of State Medical Examining and Licensing Boards.—A meeting of these boards will be held in Chicago, Ill., on Tuesday, February 28, 1911, at Congress hotel. The subjects to be taken up at this meeting will be a consideration of the State Control of Medical Colleges; a report by a special committee on Clinical Instruction; a report on a proposed Materia Medica List by a special committee; the report on a paper presented at the St. Louis meeting by Mr. Abraham Flexner of The Carnegie Foundation for the Advancement of Teaching; and some special papers on such subjects as the Regulation of Medical Colleges, Necessity for Establishing a Rational curriculum for the Medical Degree, and others, by men eminently qualified to prepare papers upon such subjects. These topics are all of practical and vital interest to medical colleges, medical examining boards, the profession at large and the public. The symposium will be composed of ten papers and be presented from the viewpoints of *state, law, medical colleges, state medical examining anad licensing boards and the medical profession.* The contributors of papers to the Symposium on State Control of Medical Colleges are men of the highest attainments in matters pertaining to state, law and the medical profession, and their production will be worthy of the most careful consideration. The chief object of the Symposium is to determine, as far as possible the feasibility of placing medical colleges under State control.

Special Appropriation for Investigation of Epidemic Paralysis.—The subject of epidemic infantile paralysis was thoroughly discussed at the Health Officers Conference recently held in Buffalo, and it was the unanimous opinion of those present that the Legislature should grant a special appropriation for a thorough investigation of the causes, and steps to be taken for the prevention of the disease.

For the past two or three years infantile paralysis has occurred epidemically over an ever-widening territory and with an increasing number of cases. It is estimated by Surgeon-General Wyman that the records of 1910 will show upwards of 3,000 cases. Ten per cent. are left with more or less permanent paralysis, so that many of the victims remain throughout life more or less dependent upon their families or upon the community for support.

Epidemic paralysis is undoubtedly a germ disease, although the germ has not yet been discovered. The infecting material is found in the discharges from the nose and throat, and the State Department of Health has ordered that the same sanitary precautions and quarantine regulations be observed with this disease as with diphtheria.

Backache, muscular pains, fever and sore throat have been recognized as early symptoms, but the disease is often not recognized until paralysis in the upper or lower extremities develops. In mild cases there may be no paralysis, and it is in this abortive type of the disease that the chief danger lies, because it is apt to pass unrecognized, the parent pays little attention to it and the physician is not called in. But the discharges from an abortive case are capable of infecting other people, especially

children, and may give rise to fatal cases or to cases with serious paralysis.

It has been thought that there was some relation between the disease aand the paralysis seen in chickens; it has been suggested that the disease is transmitted by flies and insects; street dust has been considered a causative factor; but Dr. W. H. Frost, of the Marine Hospital Service, who has been conducting an investigation in Iowa does not consider that the relationship of any of these to the disease has been established.

Laboratory investigations have been going on for some time past at the Rockefeller Institute for Medical Research in New York city. The State Department of Health now requires all cases to be reported to it on special blanks, and a study will be made of these records; but a field investigation should also be made by house to house inspections in infected districts to ascertain as far as possible the factors which favor the spread of the disease. As a rule epidemic paralysis is a disease of the summer months, but previous history leads one to expect that enough cases will appear from time to time during the winter to carry the disease through the cold season, and that it will break out again with increasing virulence under more favorable climatic conditions next year.

It is for this reason that the health officers want the Legislature this winter to provide special funds which will allow the State Department of Health to perfect its plans for a thorough field examination during the height of the epidemic season next year.

Anatomist (Male)—Army Medical Museum.—The United States Civil Service Commission announces an examination on January 18, 1911, at the places mentioned in the list printed hereon, to secure eligibles from which to make certification to fill a vacancy in the position of anatomist (male), at $1,600 per annum, in the Army Medical Museum, office of the surgeon-general, and vacancies requiring similar qualifications as they may occur, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	Weights.
1. Pathologic histology.	25
2. Gross pathology (including preparation of museum specimens).	25
3. Bacteriology (including care and use of microscope).	25
4. Photomicrography.	10
5. Training and experience.	15
Total.	100

Age limit, twenty years or over on the date of the examination. Men only will be admitted to this examination. It is desired that the person appointed to this position shall be young, in good health, a graduate in medicine, have a thorough knowledge of pathologic histology, pathology,

and bacteriology, be capable of making photomicrographs, understand microscopes, surgical instruments and appliances, and be able to prepare, card, and keep in order museum specimens.

In accordance with a recent act of Congress an applicant for this examination wiill be required to be examined in the State or territory in which he resides and to show in his application that he has been actually domiciled in such state or territory for at least one year previous to the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners at any place mentioned in the list printed hereon, for application and examination Form 1312. No application will be accepted unless properly executed, including the medical certificate, and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination, it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will, therefore, arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Special Southern Number.—The January issue of the *American Journal of Surgery* will be composed entirely of original contributions from the pens of well-known southern surgeons. Among those to appear we would mention: Pyuria, by Howard A. Kelly, M. D., Baltimore, Md.; Transfusion of the Blood Its Indication and Technic, by J. Sheldon Horsley, M. D., Richmond, Va.; Tumors of the Lower Jaw, The Form Most Frequently Found in the Negro, by Willis F. Westmoreland, M. D., Atlanta, Ga.; Pylorospasm, by Stuart McGuire, M. D., Richmond, Va.; Prevention of Immediate Post-Operative Pain by Quinine Injections, by Drs. V. & V. W. Pleth, Seguin, Texas; The Importance of Educating the Public in Regard to Cancer, by Southgate Leigh, M. D., Norfolk, Va.; Aerogenes Infections, by George R. White, M. D., Richmond, Va.; Stricture of the Rectum, Complicating Fistulæ, by C. S. Venable, M. D., San Antonia, Texas; Gastric Symptoms from a Surgical Viewpoint, by Louis Frank, M. D., Louisville, Ky. Dr. Edgar D. Capps, of Fort Worth, Texas, and H. Berlin, M. D., of Chattanooga, Tenn., will also contribute original articles to this number.

Personals.—In the December Annals the death of Dr. Richard Beauchamp, of Russellville, Ky., was noted. He was not a graduate of the Albany Medical College class of '50, but of Stower's College, Kentucky.



DR. LEONARD M. JOHNSON

Albany Medical Annals
January, 1911

—Dr. Warren C. Spaulding (A. M. C. '81), has moved from the Hotel Winthrop, New York City to Schodack Landing, N. Y.

—Dr. Henry Warner Johnson (A. M. C. '91), of Hudson, N. Y., as the result of a fall on Sunday, December 11th, has a broken leg.

—Dr. Thomas W. Jenkins (A. M. C. '93), has returned from Europe where he has been studying opsonins, under Wright. Dr. Jenkins is now doing laboratory work. He will eventually devote more of his time to serum therapy.

—Dr. Eugene J. Hanratta (A. M. C. '97), of Watervliet, N. Y., was re-elected Mayor of Watervliet, at the recent election.

—Dr. John F. Heffernan (A. M. C. '01), who has been a patient at St. Peter's Hospital with typhoid fever is convalescing.

—Dr. Harry Rulison (A. M. C. '05), is now located at 34 Dove street, Albany, N. Y.

—Dr. Charles W. L. Hacker (A. M. C. '05), is now located at the Woodward Apartments, 6 East Freemont avenue, Detroit, Michigan.

—Dr. Fred N. Bibby (A. M. C. '06), has engaged in private practice at 234 Madison avenue, Albany, N. Y.

—Dr. Patrick J. Hirst (A. M. C. '10), has opened an office at 233 Milton avenue, Ballston Spa, N. Y.

Deaths.—Dr. Willis G. Macdonald (A. M. C. '87), died at his home 144 State street, Albany, N. Y., after five days' illness of pneumonia, aged 47.

—Dr. William C. Butman (A. M. C. '54), died at his home Macon, Mo., November 12, aged 83.

—Dr. Albert Payson Jackson (A. M. C. '62), died at his home in Oakfield, N. Y., November 9, from heart disease, aged 67.

—Dr. Robert C. Tuttle (A. M. C. '63), died at his home Roscoe, N. Y., November 10th from angina pectoris, aged 76.

—Dr. Henry W. Boorn (A. M. C. '66), died suddenly at his home Schenevus, N. Y., November 8th, aged 70.

—Dr. Edward E. Brown (A. M. C. '79), died in the State Soldiers' Home, Bath, N. Y, October 6, from chronic nephritis, aged 76.

In Memoriam

Leonard M. Johnson, M. D.

Dr. Leonard M. Johnson, a graduate of Albany Medical College, 1855, died at his home in the village of Greene, October 19, 1910, after a long illness.

Dr. Johnson was born in Le Raysville, Pa., January 24, 1830. He prepared for college at the Delaware Literary Institute, Franklin, N. Y., and subsequently entered Hamilton college. He then took up teaching for a time, first as a private tutor in Virginia and later in the public schools of this state.

He began the study of medicine with Dr. Daniels of Union, N. Y., and was graduated from the Albany Medical College in 1855. He prac-

ticed medicine until the breaking out of the Civil War in 1861, when he entered the army and the following year was appointed assistant surgeon in the Third New York Infantry Volunteers, and later promoted to the post of surgeon.

Later he was placed in charge of the medical department of the Confederate prison at Elmira, N. Y. Being compelled by ill health to resign his position he went to Greene, where he was in active practice as one of the foremost physicians in Chenango county until his health failed him eight years ago. His army service well qualified him for his life work in the village of Greene. He was a man with a strong personality, a man who inspired the utmost confidence in his patients. His love for his fellowman enabled him to enter into his work with a wholeheartedness and a willingness to serve. Thinking of his duty to his patients first and little thinking of his own reward for his services, or little sparing himself when he felt that he could do good at the bedside of a patient.

C. W. Chapin.

George S. Post, M. D.

Dr. George S. Post, president of the class of 1899, Albany Medical College, died at the Rochester City Hospital on Tuesday, October 25, 1910, following an operation for appendicitis on August 16. Two days prior to his removal to the hospital Dr. Post had been able to follow his professional duties, but at operation the appendix was found in a gangrenous condition. Subsequently a condition of pylephlebitis developed, necessitating cholecystotomy and drainage on September 27, just four weeks before his death from septicemia and exhaustion.

Dr. Post was born at West Camden, N. Y., January 17, 1872. His parents moved to Fulton, N. Y., when he was two years old and he grew to manhood there, receiving his preliminary education in the Fulton High School. He graduated from the Albany Medical College in 1899, and began the practice of his profession at Fairhaven, N. Y. In 1903 he went to Holley, Orleans county, N. Y., where he soon purchased the residence of Dr. E. R. Armstrong (retired), at the head of the public square, and quickly established a lucrative practice, so that at the time of his death he was recognized as one of the leading practitioners of his county .

December 25, 1894, Dr. Post married Miss Elsie M. Gibbons, of Fulton, N. Y., who, with one son, survives him. He was a member of the Orleans County Medical Association, Senior Warden of Murray Lodge 380, F. & A. M., aand a member of the Albion Lodge of Elks. Burial occurred at his old home in Fulton on October 28, 1910.

Dr. Post was a man of strong personality and rare intellectual gifts. As a student he was one of the most popular men of his class and served as class president, in which capacity he endeared himself to all of his associates. In his death there will be no dissenting voice that the class of 1899 has lost its most popular member, and our Alma

Mater one of her most brilliant sons. He was a man of commanding presence, which with his excellent voice, facile delivery and considerable oratorical ability rendered him a forceful public speaker. Combining a wide knowledge of literature with a fund of sparkling humor, subject to the demand of the moment, he was ready in conversation and debate and, with his genial manner, became the usual center of social interests wherever he went.

Gifted as he was intellectually, however, this did not constitute his greatest charm for those who knew him best—sympathetic, warmhearted, sincere, it was a privilege to call him *friend*. He saw quickly beneath the surface of those with whom he came in contact and, to a remarkable degree, was able to estimate men at their real worth. Simple in his ways, optimistic in his outlook on life, with a winning smile and charm of address which was instantly sure to penetrate the reserve of others, to know him was to be drawn to him and to feel his power. Few of the members of the class of '99 can ever forget the homely remark, but one which was so characteristic of the man, made during a discussion of the relative advantages of a village and a city practice— "As for me, my friends, I want to live where the people know me and call me, Doc." What finer commentary can be made on the friendly personality of any man — the kindly quality which made him instinctively everybody's friend and just as surely compelled the friendship of everybody? Truly, in the words of Homer, we may say:

"He was a friend of man and he lived in a house by the side of the road."

E. L. H.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

An Anatomical and Surgical Study of Fractures of the Elbow. By Astley P. C. Ashhurst, M. D., of the Medical Department, University of Pennsylvania. Imperial octavo, 163 pages, with 150 illustrations. Cloth, $2.75, net. Lea & Febiger, Philadelphia and New York, 1910.

The Samuel D. Gross Prize of the Philadelphia Academy of Surgery, amounting to $1,500 is awarded every five years to the writer of the best original essay, not exceeding 150 printed pages, octavo, in length, illustrative of some subject in surgical pathology or surgical practice, founded upon original investigation; the candidates for the prize to be American citizens. It is expressly stipulated that the competitor who receives the prize shall publish his essay in book form. The present volume is the prize essay for 1910, by Dr. Astley P. C. Ashhurst of Philadelphia.

Dr. Ashhurst discusses first of all the current teaching on the subject; this is followed by a discussion of the anatomy, development of the lower

epiphysis of the humerus, classification of fractures at the elbow joint, pathogenesis and examination of the patient. The individual fractures are then considered as regards mechanism, symptoms, pathological anatomy, treatment and results.

Dr. Ashhurst reports in all fifty-six cases which are classified as follows: Supracondylar, twenty-one; diacondylar, eight; external condyle, twelve; epitrochlea, three; epiphyseal separation, seven; internal condyle, four; intercondylar, one.

In all of these cases, with the exception of one case of supracondylar fracture in which an internal right angular splint was used and in another case of supracondylar fracture in which there was no record of the treatment, Dr. Ashhurst put up the fractured elbow in the position of hyperflexion.

Comparatively few teachers advocate the hyperflexed position for all fractures of the lower end of the humerus but Dr. Ashhurst's results speak very strongly for this method of retention.

His results were as follows:

Supracondylar	94 % perfect
Diacondylar	62.5% perfect
External condyle	91 % perfect
Epitrochlea	50 % perfect
Epiphyseal separation	80 % perfect
Internal condyle	66.6% perfect

The latter half of the essay is made up of the clinical histories of the fifty-six cases.

J. McW. B.

A Manual of Obstetrics. By A. F. A. King, M. D., Professor of Obstetrics and Diseases of Women in the Medical Department of the George Washington University, Washington, D. C., and in the Medical Department of the University of Vermont, etc. Eleventh edition, enlarged and thoroughly revised. 12mo., 713 pages, with 341 illustrations and three colored plates. Cloth, $2.75 net. Lea & Febiger, Philadelphia and New York, 1910.

Though revised and enlarged through many editions, the author states that the work remains essentially elementary, meant in no way to take the place of the more complete text books but designed to serve as a foundation for the student and as a reference for the busy practitioner.

By clearly defining terms, by arranging the common obstetrical data in such a manner as to be readily found and by interspersing the whole with satisfactory illustrations, the author presents in compact form the "essential points of obstetric practice."

Such works are acceptable. That this one in particular has met the conditions for which it was designed is apparent from its popularity.

Pubiotomy, spontaneous version by posture . . . and thirty-nine engravings are mentioned as additions to the present revision.

P. T. H.

Tuberculosis. A Treatise by American Authors, on its Etiology, Pathology, Frequency, Semeiology, Diagnosis, Prognosis, Prevention and Treatment. Edited by ARNOLD C. KLEBS, M. D., with three colored plates and two hundred and forty-three illustrations in text. D. Appleton and Co., New York and London.

This work is divided into several parts dealing respectively with I, Etiology and Morbid Anatomy; II, Frequency and Distribution; III, Symptomatology and Diagnosis; IV, Prophylaxis; V, Treatment; VI, Surgical Tuberculosis, each part being subdivided into chapters dealing with phases of the general subjects. A short historical sketch by Dr. William Osler precedes the whole, and short introductions by Dr. Hermann M. Biggs and Dr. E. L. Trudeau, respectively, head the sections on prophylaxis and treatment. Various appendices on allied subjects follow the above arrangement, and there is an excellent bibliography and index.

The various chapters are in the main written by different men though some individuals have supplied two or more chapters.

A work both gains and loses by such a system of joint authorship. On the one hand there are too many phases of a large subject like tuberculosis to be authoritatively considered by one man, and the combined attention of the many who have devoted themselves each to a separate phase of the whole brings with it added authority and thus adds to the value of the completed volume. On the other hand, there is a certain amount of inevitable overlapping of subject matter, and still more important, omissions occur, oftentimes important, owing to the lack of undivided jurisdiction. The overlapping causes the expression at times of marked differences of opinion by the various authors, even to the extent of leaving the reader in doubt as to what is the correct view.

All these faults are to be found in this book, a victim of the system. On the whole, however, it is an excellent work, though in fact disappointing, and is a decided addition to one's working library.

The best sections are probably those on etiology and morbid anatomy. Those on symptomatology and diagnosis take up the largest part of the space, and together with treatment and prophylaxis occupy about seven-eighths of the entire text. Many errors have crept into the section on symptomatology and diagnosis and it is to be hoped that they will be corrected in another edition of the book.

The chapter on public measures in the prophylaxis of tuberculosis by Dr. Knopf is of great value but is largely taken from previous articles by the same author, and contains besides entirely too large a proportion of quotations from other writers. Dr. Lawrason Brown's chapter on specific treatment is excellent but contains some inconsistencies. He devotes considerable needed attention to a discussion of "false specifics." The sections on the sanitarium and on the various aspects of climate in its relation to the treatment of tuberculosis are also valuable. The chapters on surgical tuberculosis are of great merit, concise and well written.

Some subjects which one would expect to find discussed at length are

conspicuous by their absence. Pleurisy from all standpoints, either as a primary affection or as a complication of tuberculosis is regrettably and astonishingly omitted. Empyema is barely mentioned. Tuberculous meningitis is referred to only in the section on surgical tuberculosis, and there is no mention of tuberculosis of the mesenteric and mediastinal lymph-nodes. The pathology of general miliary tuberculosis is ably discussed in the appropriate section, but the clinical aspects are but briefly treated in other chapters, a good example of divided jurisdiction.

The book contains some excellent illustrations, especially the reproductions of radiographs of the chest, and the case photographs illustrating tuberculosis of the bones and joints, the objective symptomatology and the methods of examination. The figures representing pathological specimens are only fair, and the illustrations of sputum cups, cuspidors, reclining chairs, and other apparatus shown in one of the appendices, we think are quite unnecessary. The section on the construction and management of the sanitarium is well illustrated with plans and photographs. There are many charts and diagrams which could have been well omitted. The three colored plates are only fair.

The work will probably be improved in another edition.

C. K. W., JR.

MEDICINE

Edited by Samuel B. Ward, M. D., and Charles K. Winne, Jr., M. D.

Serous Meningitis in Typhoid Fever and Its Treatment by Lumbar Puncture.

RICHARD STEIN. *The American Journal of the Medical Sciences, Vol. CXXXIX, No. 4, April,* 1910.

The object of the writer's article is to call attention to a symptom complex which occurs in the initial stage or during the course of typhoid fever, and which is called by some by the generic name of typhoid-meningitis and by others the cerebral type of typhoid fever. German writers call it meningotyphus. These titles are intended to include both those cases of purulent meningitis caused by the B. typhosus and those cases of typhoid fever with pronounced meningeal symptoms in which the cerebro-spinal fluid is found to be sterile after careful bacteriological examination. They do not include those cases of meningitis occurring during the course of typhoid fever which are due to some other organism than B. typhosus. The term *meningism* is reserved for those cases in which an anatomical basis is supposed not to exist. It is nothing more than a very striking clinical phase of certain infectious diseases which may usher them in or develop during their course. It usually disappears in a short time, but in the rare cases in which death has occurred no pathological basis for the condition has been found. It is probably a toxic phenomenon and in some cases cannot be clinically differentiated from true meningitis.

The writer divides the state of our knowledge of typhoid meningitis into three periods: (1) Cases recorded in the pre-bacteriological era, which include cases of typhoid fever with meningitis symptoms, cases of typhoid fever with complicating meningitis due to some suppurative process in the neighborhood of the brain, cases in which the meningitis was a part of a general sepsis, and finally those cases of typhoid fever and meningitis which partook of the nature of two separate infections.

(2) The second period begins with the bacteriological examination of the cerebro-spinal stem and its serous coverings. In this period the occurrence of true meningitis due to the B. typhosus was first definitely shown.

(3) The third and last period begins with the publication of Quincke in 1891, and the study of the condition styled by him *Meningitis serosa acuta.*

The writer accepts Cole's classification of typhoid meningitis, as follows:

Group I. Cases with symptoms of meningitis in which no lesions of meningitis were demonstrated or in which no definite relationship between the bacteria and the symptoms are found. This group comes under the head of meningism.

Group II. Cases showing symptoms of meningitis in which the relationship of B. typhosus was demonstrated by its cultivation from the cerebro-spinal fluid during life, or at autopsy, and in which the lesions were not of a suppurative character.

Group III. Cases of purulent meningitis due to the B. typhosus and that alone.

The writer considers especially the first two groups. In the first one the symptoms are due to either an increase in the amount of the cerebro-spinal fluid caused by the toxins of the typhoid bacillus, or to an irritation of the meninges without the production of an excessive amount of fluid. In Group II the symptoms are clearly due to an increase in the amount of fluid caused by the presence of the organism in the cerebro-spinal canal. Why the type of meningitis is serous and not purulent is due either to the small number of organisms present, to their low virulence, or to the short duration of the attack. He reports the following cases:

1. Male, aged twenty-three years, was admitted to the hospital in the second week of typhoid fever, with the usual clinical findings of that period. During the next week the patient became much more drowsy and markedly delirious. He developed a pneumonia. Towards the end of the third week he lapsed into a deep coma from which he could hardly be aroused, but at night he was very restless, and at times wildly delirious. He often tried to get out of bed. There was nausea and vomiting. Marked stiffness of the neck developed, and the knee jerks were markedly exaggerated. The upper and lower extremities were held in hyperextension, and showed marked tremor. Foot clonus, trismus. Pulse and respirations very irregular, and the former weak and fluttering. Temperature 105° on the nineteenth day. A lumbar puncture was done, and 40cc. of a perfectly clear fluid was withdrawn. The temperature

at once fell several degrees, and though it twice rose afterwards to 104° it gradually subsided to normal. He gradually recovered from his coma, the spinal symptoms grew less, he again took food. His recovery began in every way to take place from this time, though he later developed an otitis media, and also a periostitis of the tibia. The fluid contained no cells and no bacteria were demonstrated either in a hanging drop or in cultures.

Case 2 also showed marked meningeal symptoms which were completely relieved by lumbar puncture which was done on two occasions. The patient died later from intestinal hemorrhage.

Case 3 was one of protracted delirium and coma accompanying typhoid fever, in which the signs of meningitis were well marked as well. This case was punctured three times, and the psychic and meningeal features were very favorably influenced on each occasion. From 20 to 30 cc. of perfectly clear fluid was removed each time. This had no sediment, and cultures were negative.

The writer regards his cases as coming under the head of *Meningitis serosa acuta* of Quincke, and quotes the latter in regard to the therapeutic value of lumbar puncture in these cases.

Finally he draws attention to those cases of typhoid fever which come under observation with the predominant symptoms of meningitis, and also to those rare and more remarkable cases, occasionally reported, in which the meninges are the sole seat of the localization of the typhoid infection without any of the usual lesions in the intestines or the other organs.

Clinical Experiences with the Wasserman Reaction in the Johns Hopkins Hospital.

Paul W. Clough. *The Johns Hopkins Hospital Bulletin, Vol. XXI, No. 228*, March, 1910.

The writer discusses the philosophy and technique of this reaction and its modifications, and summarizes the results, as noted in the literature, as follows: Primary syphilis, about 50 or 60 per cent. of the cases give a positive reaction; in active secondary and tertiary syphilis 80 per cent. or more are positive. In latent syphilis about 40 per cent. of the tests are positive, in congenital syphilis 90 to 100 per cent. are positive. Cases of tabes and general paresis also give a positive reaction, both in the spinal fluid and in the blood serum, tabes in 50 to 60 per cent. and general paresis in 90 to 100 per cent. In the latter diseases patients giving no history of syphilis seem nearly as likely to give a positive reaction as those who admit an infection. In view of the proven nonspecificity of the reaction, it can hardly be accepted as final proof of the pre-existence of syphilis in all such cases.

A few conditions have been reported in which a positive reaction is found though syphilis can apparently be excluded. Of these the most important is scarlet fever, in which the reaction is sometimes found both

during the active febrile period aand for some weeks after it. In leprosy, frambœsia, and in animals infected with trypanosomes the reaction is often found, and in isolated cases in a few other diseases.

The writer reports the results of a study of 268 cases in which the reaction was tested. In 99 there was nothing in the history, symptoms, or physical signs to suggest syphilis. All these cases gave negative reactions. Some of them were normal or nearly normal persons, but most of them were patients with serious acute or chronic disease. Among them may be mentioned: Pneumonia, 6 cases; typhoid fever, 5 cases; pulmonary tuberculosis, 3 cases; other tuberculous cases, 7; chronic nephritis, 7 cases; diabetes, 2 cases; advanced carcinoma, 9 cases; alcoholic cirrhosis, 5 cases; multiple sclerosis, 3 cases; paralysis agitans, 4 cases; syringo-myelia, 2 cases; and one case each of acute and chronic urethritis, chronic osteomyelitis, acute rheumatic fever with endocarditis, arteriosclerosis, myocarditis, arthritis deformans, hæmochromatosis, Hodgkin's disease, pernicious anæmia, congenital icterus, peripheral neuritis, progressive central muscular atrophy.

Of 45 cases clinically syphilitic, 33, or 73 per cent., gave positive reactions.

Of 5 cases of primary syphilis, 4, or 80 per cent. were positive. Of 13 cases of secondary syphilis, 9, or 70 per cent. were positive. Three of the four negative cases had received thorough treatment. Of 19 cases of tertiary syphilis with definite lesions, 16, or 84 per cent. were positive. Two of these cases had tumors of the chest wall, resembling sarcomata, but the result of the positive reactions was confirmed by an exploratory incision and histological examination. Another patient had a stubborn ulcer of the forearm, which was believed to be tuberculous, but it healed quickly under anti-syphilitic treatment.

Of 101 cases in which the diagnosis was in doubt, 37 gave a positive reaction. In 50 of these syphilitis seemed clinically probable, of them 33, or 66 per cent. gave positive reactions. In 51 cases in which, without the positive reaction, syphilis would have seemed unlikely, 4 gave positive reactions. In none of them could syphilis be excluded. Positive reactions were obtained in two other cases giving no history of syphilis, but presenting a well marked general glandular enlargement.

The presence of a positive reaction in relation to the age of the syphilitic infection.

There were 34 cases in which the time of the infection was definitely known. In 13 there was no sign clinically of an active process present. Of these, 10 gave a negative reaction. The age of the infection varied from 11 to 45 years, and averaged 24. Three cases gave a positive reaction; the age of these infections were respectively 16, 15 and 20 years. Of the 21 cases showing some signs of active disease, positive reactions were obtained in 12 and negative in 9 cases. Of the negative cases, 5 were tabetics, giving a history of infection 8 to 26 years before. One case with aortic aneurysm was infected 30 years before; one with rectal stricture infected 33 years before; one with tertiary ulcers, 7 years before; one with cerebral symptoms, 4 years before. Of the positive

cases, 3 were tabetics, dating their syphilitic infection 9, 10 and 30 years before respectively. Three were cases of aortic aneurysm, 2 of aortic insufficiency, and 4 of tertiary syphilis with gummata. The interval since infection varied from 8 to 39 years, and averaged 19 years, Only one had had symptoms referable to syphilis in the interval.

Nature of disease in relation to the presence or absence of a positive reaction:

Of 20 cases of aortic aneurysm, 10, or 50 per cent. gave positive reactions. Only 4 of the 10 gave a history of syphilis. Two of the others who gave positive reactions came to autopsy, and showed a localized productive mesaortitis, such as is usually considered characteristic of syphilis. In 9 other cases showing arteriosclerosis and aortic insufficiency, but no indications of syphilis, 6 had positive reactions; only 3 of the 6 had a history of syphilis.

In 6 cases having signs of cerebral lues, 3 positive reactions were obtained. One of the negative cases had had thorough treatment.

Cases in which the presence of a positive reaction was of value in making the diagnosis were the following: One case each of syphilitic cirrhosis, of bilateral synovitis of the knees with no other definite signs, of tumor of the spleen, of obliterative endarteritis with gangrene of the leg.

Of 15 cases of tabes tested 6, or 40 per cent. gave a positive reaction. Of the negative cases, 4 had recently received vigorous mercurial treatment. Eleven of the 15 gave a history of syphilis with 5 positive reactions. Of those that denied infection, 1 gave a positive reaction. In 5 cases the reaction was tested in both the blood and the spinal fluid: in 2 of them negative reactions were obtained in both, in 1 a positive reaction in both. In 1 the reaction was positive in the blood and negative in the spinal fluid, and in 1 the reverse was true. In 7 cases of general paresis, positive reactions were obtained in all. All but one of the cases gave a positive history of syphilis. In 4 cases the blood and spinal fluid both showed a positive reaction, in 2 the blood only was positive.

In closing the writer states as follows. Mercurial treatment tends to weaken the reaction, but its disappearance does not mean cure. Such cases are still liable to relapse, but much less likely than those in which a positive reaction persists in spite of treatment. A positive reaction is considered by many as itself an indication for treatment, but this is certainly not always the case. The reaction is unreliable for prognostic purposes. Mild cases which yield readily to treatment may react as strongly as severe intractable ones. The reverse, however, is undoubtedly true.

In estimating the diagnostic value of the reaction, it must be borne in mind that very little reliance can be placed in a negative reaction. In this respect its limitations are analogous to those of the Widal reaction in typhoid fever. It is safest to regard a positive reaction as simply indicating a previous infection, which though usually active may be latent and not the cause of the symptoms present. While it may be going too far to

regard a positive reaction as absolute proof of syphilis, it may be considered conclusive for all practical purposes, bearing in mind the exceptions noted. In view of its almost unanimous confirmation, the test must be regarded as a clinical method of very great reliability and value.

Concerning Leprosy. (*Ueber Lepra.*)

GERBER. *Deutsche medicinische Wochenschrift, No.* 37, 1910.

In discussing the primary lesion, Gerber quotes Sticker, who believed that this was in the nasal mucous membrane. While this view has not been altogether accepted, there are many observers, particularly in the tropics, and having a large amount of material at their command, who believe that Sticker's opinion is the correct one.

That leprosy of the face originates primarily in the nasal mucous membrane, will appear rational to those who have studied the similar conditions in Lupus. The view of Sticker and his supporters is not new, but was advanced 200 years ago by Wilhelm ten Rhyne, and even in the time of Aretaeus, leprosy was considered an inhalation disease.

The author at the present time has under observation in the Memeler leprosy home fifteen cases. These cases are being carefully studied by his first assistant Dr. Cohn, and it was found that all of them show more or less severe evidences of the disease in the nose, pharynx and larynx.

In the author's work (Beiträge zum Kenntniss der Lepra der oberen Luftwege und der Verbreitung der Leprabacillen, Archiv. f. Laryngol. Bd. 12, 1901), he gives the following figures: the nose is involved in 95.83 per cent of all cases, the pharynx in 73 per cent. and the larynx in 70.27 per cent.

His investigations would indicate that sooner or later almost all patients suffering with leprosy, develop lesions in the upper air passages, and furthermore, that a large percentage of patients with laryngeal leprosy die as a result of this complication.

The author comes to the following conclusions:

1. As a rule bacilli are not found in the upper air passages, when healthy, of patients affected with leprosy.
2. This is also true of the upper air passages of healthy persons coming in contact with leprosy cases.
3. Lepra bacilli are present in large numbers in the diseased upper air passages of leprosy cases and are most abundant in the nose.
4. Secretion lower down in the air passages is much freer from bacilli.
5. Bacilli can be found in fluid as well as dry secretion, after weeks and months and as long as one year.
6. Bacilli are scattered around by sneezing, coughing and spitting.
7. Handkerchiefs are carriers of the bacilli, and many bacilli can be

found in the water in which they are washed. All articles of apparel coming in contact with mucous secretion also carry the bacilli.

8. Gerber did not find bacilli in rooms of patients that were kept properly clean; neither in the beds nor on the floors or walls.

9. No bacilli were found in the tracheal secretion below tracheotomy wounds.

Congenital Heart Block Occurring in a Father and Two Children. Z. M. K. Fulton, C. F. Judson, and G. W. Norris. *The American Journal of Medical Sciences, Vol. CXL, No. 3, September,* 1910.

The writers group the causes of slow pulse into physiological, toxic, or infectious, or associated with diseases of the arteries, valves or myocardium. Vagus neuritis, pressure on the nerve, and direct or reflex stimulation of its center in the medulla are also occasional causes of slow pulse. Diseases of the spinal cord, pons, or medulla may lead to vagus pressure; brain tumor, tuberculous meningitis, etc, frequently lead to slow pulse through reflex action upon the vagus center. Bradycardia may also be due to a diminution in the automatic excitation of the heart muscle, or a diminished blood supply on account of aneurysm, aortic stenosis, or arterio-sclerosis of the coronaries leading to fibrosis of the myocardium with degenerative changes in the bundle of His. Among toxic causes may be mentioned uræmia, jaundice, chronic plumbism, ptomaine poisoning, etc., and abuse of certain drugs such as digitalis and strophanthus.

The writers report the following cases which they believe are unique in medical literatutre:

Case 1. Male, aged 41, had typhoid fever at the age of twenty, and for a period of from six to eleven years afterwards had several attacks of gallstone colic. On one occasion, after severe exertion lasting all day, he had general epileptiform convulsions, and for the following three years attacks of angina pectoris recurred at frequent intervals.

Examination showed a pale man, suffering from dyspnoea on exertion and from vertigo on stooping. His arteries were moderately thickened. Average pulse rate was 50 per minute. Pulse tracing shows an incomplete heart block with a three to one rhythm. No evidence of extra systoles.

Case II. Oldest daughter, aged 20 years. Marked pallor in infancy; had diphtheria once, not followed by cardiac weakness. Pertussis lasted for three months, followed by persistent cough. Subject to nosebleed, and suffers from occipital and frontal headache of the neurasthenic type. Loses her "wind" easily. Does not suffer from vertigo, faintness or dizziness, and has never had convulsions. Pulse 68 in sitting posture, 60 lying flat. Pulse tracing shows an incomplete block with a two to one rhythm. The brachial tracing shows an extra systole which arises either in the auricle or in the auricular-ventricular bundle. This indicates that the stimulability of the heart muscle is not decreased and that the incoordination is not due to depression of excitability. There is no evidence

of abnormality in stimulus production. It would seem therefore that the incoordination was due to the fact that the bundle of His could not recover its functional activity in time to transmit every auricular stimulus.

The patient never had any definite cardiac symptoms, though she was accustomed to work hard. She was, however, pale, never felt very well, and was a great sufferer from headaches.

Case II. Daughter, aged 14 years, was always a nervous child. At the age of eight years she had her first attack of general convulsions, which came without warning, lasted one to one and a half hours with complete unconsciousness, pallor, and sweating. No vomiting or involuntary micturition; no pulse record was made. These attacks recurred three or four times a week for the next six months, then about once a week for several months longer. There have been no attacks for the past five years. She is now in good health but is rather pale. The convulsive attacks were at the time considered to be epileptic, but in connection with the other cases it seems more than likely that they were due to heart block. The pulse tracing shows a brachial pulse of 80 per minute and no abnormalities.

Case IV. Infant, aged 22 months. Pallor, noted from the first, became more marked after the sixth month. At that time the baby was easily fatigued, would sweat freely and had dark circles under his eyes. Had considerable digestive disturbances with bad stools. The slow pulse was noted during the first week and varied from 40 to 50; was slower during sleep. At the age of about one year the child had a severe attack of broncho pneumonia. There was considerable cyanosis at times, but on the whole the color was good and the heart stood the strain of the disease well.

At this time the heart was noted to be somewhat enlarged to the right. There was a loud systolic murmur with thrill. Pulse 58, somewhat irregular. Small doses of digitalis were given and the pulse fell during convalescence to 40. About a year later heart was still enlarged, with murmur and thrill. Suggested imperfect systole on auscultation. Pulse 42, not increased by exertion or the taking of full doses of belladonna. Color good, child bright, vigorous and intelligent. Pulse tracing shows a complete block with entire auricular-ventricular incoordination.

The history of the oldest son, aged 18 years is also given. He was a robust, well developed, healthy looking man, actively engaged in track athletics. Had never had any cardiac symptoms, and in fact prided himself on his "wind." Blood pressure and pulse tracings were normal.

We have thus the report of a father and two children, one an infant, whose auricles and ventricles are in a constant state of incoordination, with strong probabilities that one of the other children was for a period of over a year afflicted with a similar condition. This is certainly very surprising. Until very recently it seemed to be very well established that all cases of heart block were due to some gross anatomical lesion of the bundle of His, such as gumma, sclerosis, necrosis, degeneration, etc.; more recently cases following acute infectious diseases have been reported, usually symptomless except for the slow pulse, and cases follow-

ing the administration of drugs, such as digitalis, have also been known. Now we have recorded an hereditary and apparently congenital tendency to auriculo-ventricular incoordination. It naturally leads to the thought that perhaps some of the individuals, and families, who normally have a pulse of sixty or less may have some defect of conductivity. Osler reports a family most of whose members had a pulse rate of about sixty, one of whom died with the Adams-Stokes syndrome.

The writers discuss the probable causes of the condition in their cases, and conclude that the most reasonable hypothesis is that they are here dealing with a congenital physiological and perhaps anatomical abnormality in the auriculo-ventricular bundle or its blood supply, by virue of which conductivity is restored more slowly than normally.

Serum-Therapy in Purpura Hemorrhagica, with the Report of a Case. F. Morris Class. *The Archives of Internal Medicine, Vol. 6, No. 2, August,* 1910.

The writer briefly reviews the history of the treatment of purpura during the last three quarters of a century. In 1836 King gave the following as the best remedies then in use: Blood letting in adults, nitrate of potash, acetate of lead, warm baths, turpentine, mercurial purgatives to "restore the hepatic secretions," and a generous dietary, including wine, iron, and acids to "raise the vital energies." Some forty years later the fluid extract of ergot was largely used, followed in succeeding years by the salicylates, acetanilid, hamamelis, the perchloride and sesquichloride of iron, calcium chloride, sodium phenolsulphonate, and arsenic. In a very recent article in a prominent "System" the following remedies are suggested: Calcium lactate, Fowler's solution, carbon dioxide baths, aromatic sulphuric acid, and, as a survival from the nearly century-old list first mentioned, oil of turpentine.

In very recent years subcutaneous injections of animal serum have become more or less widely used in the treatment of the various manifestations of the hemorrhagic diathesis, though more especially hemophilia. As long ago as 1897 Pigot reported a case of Purpura Hemorrhagica successfully treated with serum injections after ergot and iron had been unsuccessfully used. He used the enormous doses of 250 cc. on three successive days.

Weil, whose researches upon hemophilia were so largely responsible for the present status of serum therapy in this disease, reported in 1907 a series of four cases of hemorrhage from widely different sources treated in this manner. The first case was one of febrile polyarthritis with rapidly developing subcutaneous hemorrhages, epistaxia, and hematuria. She was treated with intravenous injections of 15 cc. of fresh beef-serum, and after one mild relapse was discharged cured. The second patient had a coagulation time of two hours on admission and of fifty-five minutes on discharge, though completely cured of the purpura. The third patient, one with purpura, was also cured. The fourth case showed

the clinical picture of the terminal stage of chronic cirrhosis of the liver. The marked subcutaneous hemorrhages were stopped entirely but the patient died from the toxæmia due to the hepatic condition.

The same writer reports in another article two advanced cases of pernicious anæmia in which the severe ecchymoses, epistaxis, and hematuria were completely checked some months before the patients died from the effects of their anæmia. In one of the cases the blood count rose during the period of transient improvement following the serum injections from 1,700,000 to 3,350,000.

Leary in 1908 reported twenty cases from Boston, in fifteen of which hemorrhage had already appeared before treatment, and in the remaining five the serum was used as a prophylactic measure, mainly in patients who were much jaundiced and in whom operations were found to be necessary. The cause of the hemorrhage in his list includes cholemia, hemorrhage of the new-born, hemophilia, purpura, a few postoperative hemorrhages, and hemorrhage in typhoid fever. A case of hemorrhage following ritual circumcision was fatal. The writer is convinced that this case could have been saved had larger and more frequent doses of serum been used. It occurred early in the series while experience in the treatment was still scant.

As to the kind of serum to be used it has been suggested that beef, rabbit, anti-diphtheritic or human serum can be used. Of these beef serum is the least desirable, as constitutional symptoms (fever, chills, cyanosis, and vomiting) are more apt to be seen with it than with the others. The dose in general use is: 15 cc. intravenously or 30 cc. subcutaneously for an adult, half of these quantities for a child. The dose may be repeated in two days. The serum should be fresh, certainly not over fourteen days old, and the fresher specimens prove by far the most efficacious.

The writer reports the following case:

Adult, woman, entered the hospital complaining of pain in the region of the bladder, and hemorrhages under the skin.

Past history: Ten years ago, after exposure to the cold, the patient had profuse bleeding from the gums, which were spongy and purple. A day later small petechial spots appeared on the body. She recovered after two weeks. At times she has bruises on her body which she cannot account for.

Present illness: Three days before admission her right wrist became swollen and painful, and a hemorrhagic spot appeared over the head of the ulna. Other joints became similarly involved. She had chilly sensations, fever, and similar hemorrhagic spots appeared elsewhere on the body. The pain in the joints later disappeared but she had a severe aching and burning in the bladder region, which has continued. The urine was dark brown in color and the patient thought that it contained blood.

Status præsens: Hemorrhagic spots varying in size from petechiæ to the diameter of a centimeter or more covered a large part of the abdomen and chest. About certain of the joints there were areas of

hemorrhage 8 to 10 cm. in diameter. The right kidney was extremely tender to pressure, the left kidney was also tender but less so than the other. Temperature 100.2, pulse 104. Blood coagulation time, two minutes, 43 seconds. Urine, acid. 1014, contained a very large amount of albumin; microscopical examination showed hyaline and granular casts and blood.

The patient was given a dose of refined precipitated diphtheria antitoxin of 5,000 units, in lieu of fresh serum which was not available at the time. During the next few days no new hemorrhages appeared, and stools and urine showed a decreasing amount of blood. A week after the first dose she was given another of the same antitoxin of 6,400 units. She progressed well for about a month when she again had pains in the bladder. No hemorrhages were found. At the end of about two weeks more she was nauseated and vomited, and several small ecchymotic spots appeared on her legs. Stools were fluid and black and contained blood. Urine also contained blood. Temperature rose to 102.3°F.

She was immediately given 10 cc. of horse serum subcutaneously. From this time on her recovery was prompt and permanent. Ten months after discharge she had had no return of her trouble.

Arterio-Sclerosis and Palpation of the Artery Wall (Arterio-sklerose und Fühlbarkeit der arterien Wand).

Fscher and Schlagen. *Deutsches Archiv für klinische Medizin,* 1909, *XCVIII,* 164.

The authors sought in their investigation of seventy-five arteries in twenty cases to find out to what extent apparent thickening of the artery wall as detected by the sense of touch was due to actual histological changes in the vessel wall.

The clinical diagnosis of "thickened arteries" was in each case confirmed during life by Professor Romberg. The radial, the brachial, the carotid and the femoral arteries were palpated in every patient. Portions of these arteries three to five cm. in length, were removed, after death, hardened in Müller—formol (9 to 1) solution for two to four days and washed two days. Sections were taken at several points and stained with Haematoxylin Sudan III, and Weigert's elastic stain. Sixty per cent. of the arteries examined had, during life, been apparently much thickened, yet three-fourths showed no thickening of the intima post mortem. The part played by sclerosis of the intima in producing what we call thickening of the artery wall on palpation must, therefore, be very small. Others, which during life had scarcely been palpable showed marked changes in the intima.

In only two cases were marked sclerotic changes found in the media. Such changes are rare under fifty years, according to Mönckeberg's investigations, and in the present series their absence is in part explained by the fact that two-thirds of the patients were under fifty.

Arterio-sclerosis in the anatomical sense could not then be responsible for the thickness of the arterial walls found on palpation in this series of cases.

Romberg's studies have demonstrated that the more palpable an artery is, and the more rigid it is, the less capable is it of carrying out its functions as was shown by the plethysmograph. Schlayer has shown this to be true of the palpable arteries in youthful subjects, where the presumption is against anatomical sclerosis. There are certain difficulties in the way of accurately demonstrating slight changes in the muscle cells of the media in histological sections, but in some of the author's cases the muscle cells seem to be very closely packed as if the result of antemortem contraction. At all events, they believe that the fact that arteries are palpable during life is due rather to functional than to anatomical changes and that these changes take place principally in the muscles of the peripheral arteries and are not necessarily in the nature of contraction.

In favor of such a view an observation is reported. A colleague of about thirty years of age showed in health a uniform, rather pronounced thickening on palpation, of the arterial walls. During an attack of tonsilitis this condition suddenly and almost completely disappeared. After his recovery it returned as before. Others have reported that rigid arteries may become soft in the course of acute febrile disease.

Contraction and hypertrophy of the muscle is quite generally considered to be the cause of the marked palpability of arteries found in nephritis, and in certain cases of rigid arteries in young persons. But these arteries when tested as to function are found to have a capacity for contraction and dilatation greater than normal, and to have better muscle tone. The apparently thick walled arteries of the present series, however, had less than normal functional capacity and were stiff and rigid. That such a condition may persist for months is shown by the case above cited. Whether the rigidity is due solely to muscular contraction is uncertain. There may be change in the muscle tone without contraction analogous to conditions found occasionally in hollow muscular organs, such as the bladder or the stomach. Rearrangement of the muscle cells may be the anatomical basis of the condition and may thus be the first stage of arterio-sclerosis. The muscular layer of the peripheral arteries is, as the plethysmograph shows, in a state of constant motion, of tireless activity, and it is not strange that it should be the earliest affected by the disease.

Conclusions.

The comparison of the results of palpation and of examination after death of seventy-five arteries shows that in half of the cases where, anatomically, sclerosis of the intima were present, no thickening of the arteries was detected during life. On the other hand, in 65 per cent. of all the cases, the arterial walls were apparently thickened on palpation, while the pathological examination showed no change in the intima. In 75 per cent. of such cases where the palpation showed the highest degree of thickening no anatomical change was found in the intima. (Cases of

nephritis were not included in the series.) Accordingly sclerosis of the intima could not play a very important part in producing palpability of the arteries.

Sclerosis of the media was found scarcely at all in the material studied. Consequently, the extreme degree of the apparent thickening of the arteries found in three-fourths of the cases was certainly not due to anatomical arterio-sclerosis.

According to the investigations of Romberg and Otfried Müller it may be assumed, as proven, that arteries as rigid as these have diminished functional capacity. There must then be changes in the arteries which cause them to appear to be extremely thickened, and which diminish their functional capacity without the occurrence of arterio-sclerosis.

Since on pathological study it was found that the other arterial layers were not changed, the cause of apparent thickening of the walls in all places were it is present without arterio-sclerosis, must be in the media; and without doubt in functional changes taking place in this layer. In contrast to the arteries found in chronic interstitial nephritis these arteries have diminished functional capacity and so, from this point of view, resemble sclerotic arteries. Detailed tables and reports regarding cases studied are appended.

Some Observations on Grocco's Sign.

GEORGE BLUMER. *Yale Medical Journal, January*, 1909; *Proceedings of the Connecticut State Medical Society*, 1908, *page* 239.

Grocco's sign is a paravertebral triangle of dullness which appears on the sound side in cases of pleural effusion in which the fluid is free in the pleural cavity, or, if encapsulated, is in contact with the vertebral column. The dullness is only relative, and is most marked near the spinal column and becomes less intense as the percussor recedes from that structure. One side of the triangle corresponds to the middle line of the body over the vertebral spines. The second side is formed by a line corresponding to the base of the sound lung, and the third side roughly corresponds to a line joining the apex of the vertical side with the outer extremity of the horizontal one, though this line is often convex outwards rather than straight.

The size of the triangle varies, within certain limits, with the amount of the effusion, and is usually larger in right sided effusions (left sided triangles) than in the left sided ones. All sides of the triangle are not, however, equally variable, for the base, which may be from two to nine centimeters long, varies much less than do the two other sides. The apex is, according to Eward, at the level of the upper margin of dullness on the affected side, but most observers state that it is generally one or two spines, and at times three or four spines below this point. This point corresponds, according to most observers, rather to the upper level of flatness than to the upper level of dullness. The condition of the underlying lung is of importance in determining the size of the triangle, for as

Frankenheimer has pointed out, a small effusion overlying a consolidated lung can produce as large a paravertebral triangle as a larger effusion overlying normal lung. The triangle also changes in size with changes in the position of the patient. It is best observed with the patient in the sitting or standing position. With the patient lying on the affected side it will, in small effusions, disappear within a few minutes; in larger ones it will decrease in size. In the case of bilateral effusions two triangles may be observed, and inasmuch as the two effusions are seldom equal in amount, the triangles are not symmetrical.

The percussion technique necessary to demonstrate the triangle is simple enough, and consists in first finding the level of dullness over the spinal column, then marking by a horizontal line the base level of the sound lung, and finally by percussing along a series of imaginary vertical lines parallel to the spine and a second horizontal series at right angles to it, delimiting the hypothenuse of the triangle.

The breath sounds are usually decidedly feebler over the triangle than over the rest of the sound lung, and at times the breathing may have a distinctly tubular quality. The most striking auscultatory change over the triangle is the nasal character of the voice sounds. In one case the voice sound was transmitted beyond the triangle towards the scapula, a circumstance which might possibly be explained by transmission through enlarged mediastinal glands in this situation.

Ewart has shown that in ascites, where a good deal of fluid is present, bilateral symmetrical triangles are present which, however, are broader at the base and relatively much shorter than those seen in pleuritic disease, and differ also from the two triangles seen in double pleuritic effusion by their symmetry. Alexander Morrison suggested that collections of pus beneath the diaphragm would probably produce paravertebral triangles, and this suspicion has been confirmed by Ewart and Beall. Smithies has shown that cystic abdominal tumors can also produce a Grocco sign. In all these instances, however, the accompanying symptoms and signs of intra-abdominal disease would probably in most cases allow the observer to differentiate the condition from pleural effusion. It has been claimed by some, Pollak especially, that the sign can also be present in lobar pneumonia; but most observers, while agreeing that a paravertebral dullness may occur in this disease, claim that unless effusion is also present the dullness does not take the form of a triangle, but occurs as an ill-defined band parallel to the spinal column. One must conclude, after a critical survey of the facts at hand, that paravertebral dullness, when distinctly triangular in shape, is fairly distinctive of pleural effusion when associated with signs of intrathoracic disease. It also seems certain that it is of distinct value in the recognition of small effusions and of escapsulated effusions, providing that these are in contact with the spinal column. When the triangle does occur as a result of disease below the diaphragm, it is usually symmetrical, differs in shape from the typical triangle of pleural effusion, and should usually be distinguished without trouble on this account, and on account of the presence of symptoms pointing to intra-abdominal disease.

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

Pleurisy.

F. de Havilland Hall. *The Practitioner, October,* 1910.

After a discussion of the symptoms, of the physical signs with a pointed reference to the difficulty of diagnosis in many instances, and of the prognosis, the writer goes on to describe the treatment now most in vogue in England.

Great emphasis is made of the necessity for early treatment and attention is called to the point that among many practitioners it is how soon paracentecis shall be performed when they should be bending all their endeavors to give relief to the patient and possibly prevent the course of the disease. In mild cases where the pain is not severe, large linseed-meal poultices, with or without the addition of mustard may be applied. Antiphlogistine or hot water bottles may be substituted for the poultice. Strapping the affected side with broad strips of adhesive plaster, by limiting the excursion of the chest wall gives much relief. In severe cases, however, the only reliable agents are morphia subcutaneously and the application of leeches. Some practitioners apply blisters but the succeeding raw surfaces may prove troublesome, especially if paracentecis or incision becomes necessary.

In the febrile stage the diet should consist of milk and beef juice, with the addition of water freely, plain or carbonated, toast water and lemonade. When the temperature falls and absorption is taking place a fairly dry diet is of benefit. During convalescence a full and stimulating diet is very desirable. The use of alcohol is a question to be decided by the habits of the patient, for unless he has been accustomed to its daily use in health it is rarely indicated in pleurisy.

Medicinally, during the acute stage, salicylate of sodium is the best drug, and the more febrile the patient the greater the indication for the drug. It should be given in doses of from ten to twenty grains every four hours, according to the height of the temperature and is best administered in combination with sodium bicarbonate. An occasional dose of five grains of phenacetine with two of caffeine will relieve the headache. Five grains of iodide of potassium with twenty minims of aromatic spirits of ammonia in an ounce of chloroform water, with two grains of quinine in pill form, may be given t. i. d., after eating. If the patient is anemic the syrup of the iodide of iron may be substituted for the potassium iodide mixture. With scanty, high colored urine, a mixture containing tincture of digitalis, potassium iodide and potassium acetate is employed. Frequent doses of calomel or blue pill are given in combination with colocynth and extract of belladonna.

During convalescence the absorption of the fluid may be stimulated by the use of iodine or by blisters. The indications for paracentecis and the methods for its application are then discussed at some length, but as they seem in no way to differ from those in vogue in this country they need not be discussed.

The Treatment of Rheumatic Fever.

F. S. Meara. *The American Journal of the Medical Sciences, March,* 1910.

In the therapy of rheumatism no one thing is of as much importance as rest and rest in bed. The reason for this is not alone to relieve the pain but because the body cells are busied in combating an intoxication, for which their energy should be conserved as much as possible; because certain tissues are undergoing the alteration incident upon inflammation, and are struggling to accomplish repair; and because the spectre of cardiac involvement is never absent from the disease.

After emphasizing this self-evident proposition by a discussion of CO_2 eliminated during rest, sleep, etc., the kind of bed and room desirable are considered.

A definition and explanation of what a calorie is occupies considerable space preceding the statement that in rheumatism the patient needs to have supplied each day about 2,800 calories. It is an easy mathematical problem to determine that to meet the patients needs with the usual milk diet would require some five quarts of milk, an amount that it is impossible to maintain for many days even if our common sense did not forbid it. The addition of milk sugar while not adding much to the sweetness increases the calories in the milk. Milk, milk soups, cereals, cream, butter, bread and rice should form the staple diet in rheumatism. To meat soups which have scarcely any nutritive value, there are certain theoretical objections, but if their well-known influence in spurring a jaded appetite and stimulating what the Germans call the "*appetit-saft,*" is taken into consideration, small amounts are justified. When the fever decreases eggs may be added and during convalescence, fish, meats and vegetables. Copious evacuation from the bowels should be had every day and catharsis is best produced by some form of saline, and of these the writer gives preference to Epsom salts.

Specific treatment.—The first statement made under this heading is that there is no specific for rheumatism, although salicylic acid approaches that status and its effects are antipyretic, anodyne and antiseptic. Of the six pages in which the author tells how to administer the drug several paragraphs may be quoted with advantage.

Salicylic acid may be administered as such, or in the form of a salt or an ester, certain by-effects determining the use of one or the other. Its toxicity is slight and failure may be often attributed to insufficient dosage. The writer gives twenty grains of one or the other forms every two hours for the first twenty-four or even forty-eight hours, and in severe cases thirty grains, diminishing the size and the frequency of the dose as the patient improves or shows signs of accumulation, but never dropping below ten grains until the fever, pain, and joint swelling have passed. During convalescence five or ten grains every two or three hours should be given for several weeks.

But little importance should be attached, in his opinion, to the disagreeable symptoms from the drug as they are more apt to be disagreeable than

dangerous. These are: Buzzing in the ears, deafness, gastric disturbances, cardiac disturbances, respiratory disturbances, cerebral symptoms, renal complications, hemorrhages, skin involvements and retinal hemorrhages. These conditions are as frequently due to the disease as they are to the drug and are in no way as serious as they sound and always suggest some impurity in the drug. Sometimes one form irritates the digestive tract and sometimes another, only experience in each case determining which one to select. A safe rule however is to avoid polypharmacy making sure that the drug is pure and giving it alone. Next to salicylic acid and sodium salicylate comes acetyl salicylic acid, frequently giving quick relief. Another excellent preparation is methyl salicylate. The glucoside salicin is of value with children. Patients who cannot take salicylic acid in any form may be given some one of the three well-known coal-tar remedies, acetanilide, antipyrine, or phenacetine to control the pain or they may be given morphine for that purpose.

After mentioning the so-called alkaline treatment, the balance of the paper is taken up with suggestions as to symptomatic treatment and a brief discussion of the complications.

On the Actian of Magnesium Sulphate.

S. A. Matthews and Clyde Brooks. *The Journal of Pharmacology and Experimental Thcrapeutics, October,* 1910.

The older investigators found that the intravenous and subcutaneous injection of magnesium sulphate not only produced no purgation but that it was very toxic, causing a form of paralysis, accompanied failure of respiration and cessation of the heart's action. Hay, in 1882, observed this toxicity and also that the more rapid the injection the more toxic the action. He noted that the muscles were relaxed and motionless and that the respirations stopped while the heart was still beating strongly. These observations were confirmed by other investigators and Binet claimed that the magnesium salts caused paralysis of the nervous system. He says that magnesium agrees with lithium, potassium and sodium in that it stops the heart in diastole; and that it is distinguished from calcium and other metals by the quick paralysis of the peripheral nervous system, and that magnesium is a "*mator paralyzant like curare,*" but that it is distinguished from curare in that it allows breathing longer and at the end by paralyzing the heart and muscles like all metallic poisons, but neither he nor the others attributed to the salts of magnesium any true anesthetic action. Meltzer and Auer have recently confirmed largely these findings but note as well the paralysis of the medullary centers, viz., respiration, deglutition, and vaso-motor, as well as the general muscular paralysis which comes on before the medullary centers are depressed to a point incompatible with life. In this condition animals will endure surgical operations without external evidence of pain, and after a time return to a normal state. Wike, Binet, Bardier and Guthrie all confirm the curare-like action.

The writers compared the action of magnesium sulphate and of curare and found in fatal doses, almost identical results as to the blood pressure and the respirations. In either case the respiration ceased in a few seconds and the blood pressure suddenly dropped, rose a bit, then dropped to zero and the heart would stop unless artificial respiration was employed when the blood pressure would return to normal.

To learn if these phenomena were due to the same cause in magnesium poisoning as in poisoning from curare, that is peripheral paralysis of motor nerves, a series of experiments were undertaken upon dogs which allowed a solution of magnesium sulphate to circulate in the femoral vein and artery of one leg alone, the irritability of the sciatic nerve being tested. It was found that a slow perfusion of 5 cc. $\frac{m}{1}$ $MgSO_4$ solution was followed by a marked depression of the peripheral motor nervous mechanism almost immediately and lasting fifteen minutes, recovery being complete in about thirty minutes. It was also found that the peripheral depression and subsequent recovery occurred concomitantly with the stoppage and return of respiration. These results however do not prove that there is not also a central depression, and experiments were made in that direction as well. In order to get this point more directly, the head and neck of one dog was perfused with blood from the carotid of another dog into which sufficient magnesium sulphate had been injected to stop respiration. In this way the body of the second dog would be unaffected and any depression would be due to a direct action on the respiratory center. The results showed that the respiratory center is markedly susceptible to magnesium sulphate, but that it does not respond so readily as do the motor nerve endings. These experiments indicate that the most marked action of magnesium sulphate is a curare-like action both on motor nerve endings, respiratory center and blood pressure.

A series of experiments upon dogs and frogs failed to give conclusive evidence as to the effect of magnesium sulphate on the sensory nerve endings, but a further series of experiments upon the heart markedly suggest that the action of this drug is essentially a depression of the cardiac nervous mechanism, especially the accelerators, resulting in a loss of tone, incoördination, leading to a loss of automaticity; but at the same time retaining its irritability.

The Action of Drugs on the Salivary Secretion.

V. E. Henderson. *The Journal of Pharmacology and Experimental Therapeutics, August;* 1910.

Henderson's experiments were suggested by questions arising during some work done on expectorants.

Drugs can act upon the salivary mechanism obviously in several ways, viz., reflexly through the center, directly through the center, directly upon nerve endings in the glands, directly upon the gland cells without being

excreted in quantity by them, or if a selective secretion be presupposed it might be suggested that the presence of certain substances in the blood stream would bring about a salivary flow owing to the necessity for their excretion.

The salivary center is very readily depressed by anesthetics and by small doses of morphine. If the blood pressure be seriously lowered by ether or chloroform the center will remain inactive for several hours. High pithing or intracerebral magnesium chloride both depress the salivary center.

The afferent paths to the center seem very wide. Cortical stimulation brings about secretion and a mental effect on the salivary flow is well known. If the center be active, stimulation of almost any sensory nerve excites secretion, although stimulation of the lingual nerve gives most marked results, secretion beginning in a few seconds and outlasting the experiment. Electrical stimulation is not as powerful as the application of ether to the tongue.

The efferent paths are two in number, the chorda and the sympathetic, the former being much more important than the latter. Variations in temperature and certain substances excreted by the salivary glands stimulate the glands to an increased production of saliva.

After giving in detail a description of the methods and the manner of conduction of the experiments the author concludes:

Iodides are excreted by the salivary gland, but their presence in the blood stream does not initiate a flow of saliva if the salivary center is depressed or its nerve connections to the glands broken; nor does the excretion of iodides increase a previously existing flow or increase the effectiveness of a reflex stimulation. Salivation from iodides must be from some reflex cause.

Other salts, sulphocyanates, carbonates, and nitrites, when injected intravenously act similarly to iodides.

Emetine has a central and a reflex action.

Antimony in non-toxic doses acts only reflexly.

Ammonium salts have a central action but also a reflex action which is probably the more important.

Apomorphine acts directly upon the center. It has no peripheral action in the gland.

The salivary center is very labile, readily affected by sensory stimuli and readily depressed by narcotics.

ALBANY
MEDICAL ANNALS

Original Communications

RURAL HYGIENE.

Read at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

BY ALLEN W. FREEMAN, M. D.,
Richmond, Va.

In discussing the subject of Rural Hygeine, I need not remind so experienced a body of health officers that we are treating a topic which has been much neglected in the past. Because we have believed that our efforts were most needed and our field most fruitful in the cities, we have given little attention to the country, and until recently have failed, I think, to realize either the needs or the possibilities of rural sanitation. How our views have come to be changed on this subject, what the needs of the situation are and what we may expect from careful work, are in the brief, the matters to which I would call your attention.

I think it may be assumed without argument that sanitary conditions throughout the rural districts of the United States are far from what they should be. It is true that this general premise is based upon the studies which have been made in the Southern states, where the prevalence of such diseases as typhoid fever and hookworm has made these studies imperative, yet my observations in the North and West, though somewhat limited in their extent, have not revealed any great difference in the sanitary habits of the people or in the sanitary situation. Indeed, the more I study the subject, the more I am convinced that our problems and conditions are much the same, north or south. Of course, we have been led to believe that the undue prevalence of typhoid fever and hookworm disease in the Southern states marked a distinction in the sanitary problems of the two sections. Yet I believe the prevalence of these diseases is due more to the added factors of a warmer climate and the presence

of the negro, rather than to any fundamental difference in the habits of the people. The country people of the eastern part of the United States are for the most part descendants of the original stock from the British Isles and the North of Europe. The sanitary habits brought with them are those of a people accustomed to a northern climate. These habits have proved fairly adequate to those dwelling in the northern part of our common country, but they have failed utterly among those living under southern conditions.

We, of the South, have come to realize that our long summers and our negroes, rather than ourselves or our habits have made us dwellers in a subtropical climate and that the problems which confront us are subtropical problems for a temperate people,—problems from which the North is spared by shorter summers and fewer negroes rather than by constitution or habit. Our underlying beliefs and constitutions are identical with those of your people; our problems are different in degree, rather than in fundamental character; are aggravated, merely, where yours are modified. I make this comparison because it justifies, I believe, the application to your conditions, in part at least, of the remedies we are employing in the South and brings home to you the problems which are common to North and South.

If we turn for a moment to the census reports for 1908, we shall have no difficulty in ascertaining the particular problems which confront us in working for improved rural sanitation. Typhoid fever, diphtheria, and tuberculosis, stare us in the face.

The following table from the census reports for 1908 shows the death rate from typhoid fever in various areas of the United States:

Registration cities	25.8 per 100,000
Cities in registration states	24.5 per 100,000
Rural parts of registration states	24.3 per 100,000

When we consider that in most cases the inhabitants of our rural districts are not subject to milk infection, to food infection in general, or to any great extent to water infection with typhoid, the fact that they suffer practically as severely from typhoid fever as the residents of our cities indicates that the other factors, flies, filth and contact, must be unduly active.

In diphtheria, notwithstanding the fact that close crowding and intimate association are lacking, that milk and food in-

fection are usually out of the question, we find the following report from the same source:

DEATH RATE FROM DIPHTHERIA, 1908.

Registration Cities..... 25.5 per 100,000
Cities in Registration States..... 27.9 per 100,000
Rural parts of Registration States..... 17.3 per 100,000

It would seem that even the most rudimentary precautions under the usual conditions of rural life would prevent the spread of diphtheria in the absence of the factors mentioned above, but we find that the inhabitants of our rural districts suffer quite severely from this disease.

In tuberculosis we have another disease from which we would expect the inhabitants of the country districts to be much less heavily infected, living as they do without close associations, escaping the dangers of street dust, street cars, railway trains and public places, and exposed in fact practically to only the two factors of house infection and milk infection.

From the same report we obtain the following figures:

DEATH RATE FROM TUBERCULOSIS, 1908.

Registration cities.....170.1 per 100,000
Cities in registration states.....169.1 per 100,000
Rural parts of registration states.....117.3 per 100,000

Bearing in mind the favorable factors mentioned above, we must conclude that this death rate although lower than that of the cities is far from satisfactory for the conditions which should surround the inhabitants of country districts.

We must, therefore, face the fact that the sanitary administration of our country districts is for the most part not efficient in the North, South, East or West. We must recognize that, notwithstanding the fact that theoretically the prevention of disease should be far easier in country districts than in cities, in practice we only realize a slight advantage, and that the possibilities of prevention in rural life are for the most part not realized.

The causes for this condition while varying in detail in any two given localities depend fundamentally on the same factors in every locality, and may be summed up briefly as lack of education on sanitary matters and lack of organization of sanitary forces.

Lack of Education.

We have just come to realize that education, or rather popular information, regarding disease, its nature and prevention, is the most effective and easily available weapon of sanitary science today. Against ignorance, and stupidity, preventive medicine is helpless.

If we are to realize the benefits which the sanitary advances of the last generation have made possible to our people, we must secure a widespread comprehension by them of the fundamental truths underlying sanitary work and, a reasonable belief, at least, in the efficiency of modern methods of prevention.

This comprehension and belief cannot be brought about in a day, a year, or perhaps in a generation, but even a beginning towards this end marks an advance in sanitary progress and a great aid in sanitary performance.

The general means of education of our country people have been so thoroughly covered on so many occasions, and are so familiar to you, that they need not be reviewed now. It is sufficient to say that every avenue through which the people are accustomed to receive their general information should be used for carrying to them information along sanitary lines.

In addition to these means we have found in Virginia that the district inspector is a well-nigh indispensable agent of education. Working first with the physicians and then with the people, discussing the well and closet with them on the ground, showing them actually the means by which well pollution takes place and by which infection is brought to the house from unprotected excreta, the inspector becomes a teacher and demonstrator whose labors are always fruitful.

In the hookworm work particularly we find that a personal visit to the farm with an inspection of its sanitary surroundings, the immediate microscopical diagnosis of any cases of hookworm which may be found, and a discussion of the whole farm as a sanitary unit supplemented by literature which may be left at the time of the visit, is of the greatest value in convincing the people of the magnitude and importance of the work which we are trying to do.

I repeat, whether we depend on schools, newspapers, bulletins, lectures, exhibits or individual visits, our end cannot be accomplished until we have secured the real comprehension by at least

a majority of our people of the principles which underlie our work and a real belief in practical preventive measures.

Lack of Organization.

While of the two causes for present unsatisfactory rural conditions, lack of popular education is by far the most important, the careful student of conditions is forced to recognize the fact that there are certain fundamental defects in our present plan of organization of country health officials. The plan of organization varies of course with the various states, no two, perhaps, being identical. All, however, have certain features in common; all have certain common defects and all stand in need of certain reforms, without which efficient organization is impossible. As I see it, there are three chief faults in our present systems, or, to put it in another form, there are three needs to be supplied. The first of these defects, and the one certainly found in every State, is the part-time employment of practicing physicians for health work.

No one recognizes so well as a State health officer the vast amount of work for the prevention of disease done by such men, done usually, too, in the face of popular prejudice, without adequate compensation, under trying technical difficulties, always arduous and usually dangerous. The voluntary effort of these practitioner health officers has been the mainstay of rural sanitary work for years, and too much honor cannot be given to them for their unselfish devotion to the cause of preventive medicine at a time when they alone realized its needs and possibilities.

It is, however, no reflection on such men or their work to inquire if the method, is after all the best one under modern conditions, and if in the development of popular education and appreciation of sanitary work, their sacrifice is necessary or proper. We must recognize, first, that preventive work and private practice are opposed, economically, one to the other, and that in no other profession is a man expected to work constantly for the obliteration of his own sources of income. Then too the faithful and efficient performance of one's duty as a health officer often arouses the most bitter antagonisms, and creates permanent enmities in the community. If the health officer be a private practitioner, this may frequently result greatly to his professional and financial disadvantage. The private practice

of medicine is not so remunerative that the average man can venture to arouse such opposition without endangering his own bread and butter. In addition, ethical considerations often prevent the efficient performance of duties involving relations with the patients of a fellow practitioner.

We must, too, keep in mind the fact that the enormous expansion of medical knowledge, seemingly endless as it is, requires every effort on the part of the private practitioner to keep abreast of the times, and that he has but little time to keep up with the equally rapid and extensive advance of its sister, sanitary science.

In addition, every one who has worked with assistants, for only a part of whose time one contracts, realizes the great difficulty in securing efficiency as compared with the assistant whose whole time and energy are at your disposal.

These facts have long been recognized in municipal sanitary work, and in every progressive health office to-day you will find the majority of the workers to be trained men, out of private practice for all time, and devoting their whole energy to the work. The same rule should apply to the country. The rural health officer to-day should be in my opinion, a physician, well acquainted with the territory committed to his charge, independent of local political influences, trained in the especial work he is called upon to do, and giving his whole time to the work. Such a man need not be a graduate of a school of sanitary engineering, he need not even be a bacteriologist. Personally I should prefer him to be a good sensible practitioner, whose interest in the subject has kept him abreast of the times and who is given a few weeks or months of special training in the field, in the practical details of the work. But he must, in any case, devote his whole time and his whole energy to health work alone. The amount of territory such a man can cover is much larger than is usually realized, and the salaries for part time work in two or three counties will often suffice for the employment of such a man, with a vast gain in efficiency.

Vital Statistics.

Next in importance to the personality of the health officer in influencing the efficiency of rural work, comes the matter of vital statistics. No man, no matter how able and efficient, can properly supervise the health of any district, however small,

without accurate vital statistics for that district. You are fortunate enough in New York to possess such a system, well established, complete and reliable. The absence of such a system in Virginia constitutes a handicap to the work of our State Department which cannot be overcome until the system is established and in full operation. I believe that in general the lack of accurate vital statistics constitutes the most serious obstacle to sanitary progress in the Southern states to-day.

Legal Enactments.

Third in order among our needs is that of better legal requirements. In common with every other branch of governmental endeavor, public health has suffered much in the past from an excess of law. Unenforced laws bring all law into contempt, and yet the statute books of practically every State are cluttered up with laws which we could not enforce if we would, and we would not enforce if we could. For effective rural work we need few laws, but we need these to be plain, easily comprehensible and capable of immediate enforcement. In most cases the statutes need only empower the State health authority to make regulations, thus making the law flexible enough to cover the changing needs of the times, and subject to immediate test in the courts. Such regulations should however be as few and as simple as it is possible to make them, and every effort should be made to enforce each one to the letter.

Results Possible from Effective Work.

If we secure efficient health organizations for our country districts along the lines I have been bold enough to suggest, what results may we expect? Can we hope to reduce the excessive mortality from preventable disease to which we have referred? For an answer we need only look at the cities with their declining rates from all preventable diseases and their even more significant decline in the general death rate. We must then realize that the same efforts in the country, under more natural habits of life than are found in the crowded and artificial life of our cities, can but yield even greater results.

From our experience in Virginia, I am quite sure that the installation of proper means for the disposal of night soil, and the education of the country people as to the dangers of contact infection, will result in lowering the typhoid death rate in rural

districts to one-fourth of its present proportions. Such a campaign has been conducted in Virginia for the last two years, and though limited in its extent, and far from complete in its details it has resulted in lowering the number of reported cases of typhoid fever 35%. Education regarding consumption, with the establishment of a county home for the intractable open cases and the improvement of the ventilation of country homes, especially the sleeping rooms, should cut the death rate in rural districts far faster than we are able to do in the cities. In diphtheria the use of early laboratory diagnosis, release cultures, effectual isolation, and above all intelligent epidemiological work offer hope of prompt and substantial reduction in the attack rate. In every branch of preventive medicine the country invites careful and conscientious work.

The country health officer, whether he be a practicing physician or an expert with a diploma in public health, has opportunities unequalled in any other field for both research and practical preventive work. The field is just opening, and those early in it will reap the greatest rewards, not only in money and reputation but in that far more valuable thing, the consciousness of real and effective service to the increase of human happiness and the lessening of human woe.

QUARANTINE, ISOLATION AND DISINFECTION.

Read at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

By WILLIAM A. HOWE, M. D.,

Deputy Commissioner of Health, New York State Department of Health

Before presenting the brief paper which I have prepared for your consideration this morning, I hope you will pardon my digression long enough to permit me to express to you the profound pleasure and gratification which I find in being more closely associated with such a powerful body of men and women as the health officers of this great State who are so freely and unselfishly devoting their time, their energy and their skill to one of the grandest works of mankind—the suppression of disease. To a line of work in which the greatest accomplishments are possible, made so only by personal sacrifices and untiring

devotion to this noble cause of humanity. At the same time I want to assure you that my one ambition will be to follow steadfastly in the path of our distinguished Commissioner of Health, whose sympathies have always been so closely in harmony with the health officer and who has always been so solicitous of his welfare. I want you to know that such influences as it may be my privilege to exert, either officially or personally, will be in but one direction and with but one purpose, namely to lend a helping hand to every effort having for its purpose the protection of the health of the people of our Empire State. In doing so I only voice the earnest desire of our commissioner, in urging the active co-operation of every health officer, every physician, every dentist and every health worker of the State, in one common crusade against the prevalence of communicable diseases. To deal with this important question, the suppression of communicable diseases, in a manner commensurate with its gravity, and to hold a restraining hand over contagion and infection, is indeed the most far reaching problem of present day sanitation. In it we find the greatest possibilities of future accomplishments in saving human life, the most blessed privilege of man to man. While it is not to be expected that we will immediately realize the idealism of total suppression of these diseases, it does seem as if a very material reduction in their frequency and fatality could and should be accomplished. To do this, however, certain things are absolutely necessary. In the first place, we cannot rightfully hope to suppress communicable diseases until we can succeed in getting them universally reported to the health authorities. This pertains to every contagious and infectious disease, the report of which is required by the State Department of Health. The diseases to be reported, have under the law, been designated by the State Commissioner of Health, as follows:

Anterior Poliomyelitis, Anthrax, Bubonic Plague, Cancer, Cerebrospinal Meningitis, Cholera, Diphtheria, Hyrophobia, Leprosy, Measles, Ophthalmia Neonatorum, Pellagra, Pneumonia, Scarlet Fever, Smallpox, Tetanus, Pulmonary or Laryngeal Tuberculosis, Typhoid Fever, Typhus Fever, Whooping Cough and Yellow Fever.

It should be the moral duty of every person interested in the suppression of these diseases, whether he be physician or

layman, health officer, attending physician or parent, to exert his or her influence to secure the prompt report to the health authorities of every such case coming under his or her observation. When this is done, and when proper reciprocal relationship of mutual helpfulness prevails between the attending physician, the parents and the health officer, then may we hope to get these cases universally reported, and having done so, surround them with the necessary quarantine isolation and disinfection so absolutely indispensable for their control or suppression. It is plainly incumbent upon us as health officers and health officials to employ every possible means at our disposal to accomplish this purpose, a realization of which is the first great step mandatory for the suppression of those diseases which are to-day the greatest menace to public health. And just in proportion as we may be able to increase or perfect the efficiency of notification of communicable diseases, so may we hope to advantageously employ the further remedial agencies of quarantine, isolation and disinfection so indispensable for their control. To you, my hearers, more than any other people, it must be axiomatic that the successful management of any transmissible disease is dependent, first on its prompt report, second its proper quarantine, third its efficient isolation and lastly its thorough disinfection. You will agree with me, I am sure, that were we able to secure the prompt report of every infectious and contagious disease occurring in our midst, and could establish and maintain thereon a suitable quarantine under strict isolation and thorough disinfection, we would soon be able to control the spread of these preventable diseases, and save thousands, yes, millions, of precious lives.

In the matter of quarantine the commissioner has under consideration the advisability of adopting rather a radical modification of the present plan in vogue throughout the State. It is my purpose to briefly outline this plan to you, and I trust you will avail yourselves of the opportunity to freely discuss it both pro and con. Instead of having one general class of quarantinable diseases as at present, in which the term quarantine means practically the same in every instance, it has been suggested that we might, with advantage, have one class of diseases for an absolute quarantine, another class for a modified quarantine and a third class for an observation quarantine. Fur-

ther than this it would seem as if we might well adopt an official or standard quarantine card for such of these diseases as it may be thought best to placard. A card which could and would be used in every municipality throughout the State. So far as that is concerned, a similar card might well be used in many States. Personally I can see no reason why diphtheria or any other communicable disease might not be quarantined in the same manner in Massachusetts or Pennsylvania or Ohio as in New York, and I can plainly see several good reasons why such an interstate system would be productive of much good in the work of general sanitation throughout the country.

The adoption and general employment of such a set of quarantine cards would, in my opinion, not only tend to materially enhance the efficiency of our present methods, but decidedly strengthen the hand of the local health officer and relieve him of much of his present trouble.

Under the first class, or absolute quarantine, would be placed smallpox, scarlet fever, diphtheria, bubonic plague, cholera, typhus and yellow fever, a type of diseases in which the greatest care and the most stringent prophylactic measures are absolutely imperative. With this extreme degree of quarantine no person, unless permitted by the health authorities, should be allowed to go in or out of the building in which the disease prevails. This ruling should of course not exclude the attending physician, the health officer, the civic officer, or the attendant on the sick, whose freedom of movements, however, should be under strict compliance with every precautionary measure. In addition to this prohibition of extrance and exit, an official quarantine card should be posted in a conspicuous place on the building. giving name of the disease within, its imminent danger, the degree and expiration of quarantine and the penalty imposed for failure to observe the same. This card, as suggested above, should have the official endorsement of the State Commissioner of Health. It should be dated and signed by the local health officer when placed in operation. The municipality enforcing such a quarantine should consider itself responsible for the maintenance of the family so detained, furnishing such necessary food or other supplies, even nurses, when circumstances require it. No article coming in contact with the sick or in any manner exposed to possible infection should be permitted to be taken

from the building, until the same has been treated in such manner as may be required to insure absolute safety to those without. This quarantine as you will observe is exactly what its name implies, an absolute one, and if religiously employed in the above mentioned diseases, would accomplish much toward their extermination.

The second or modified quarantine, like that of the preceding, requires the enforcement of the same precautionary measures, but grants more privileges to members of the family, of entrance and exit to the building. These privileges, however, must be subject to certain well defined limitations, as prescribed by the health authorities, any violation of which should be ample justification for the substitution of the absolute quarantine. Here, as before, the official card must be posted, the patient and attendant carefully isolated and all articles leaving the sick room undergo satisfactory disinfection. In case the wage earner or other member of such household remain entirely away from the sick room, the attendant or other sources of possible infection, he *may* be permitted to go to and from his work, but in doing so the utmost care must be exercised, especially with those people whose vocation brings them in close contact with others who might be highly susceptible to the disease under quarantine. Generally speaking children are most susceptible to all communicable diseases, and it is their safety which you should guard most vigilantly, not only in matters of modified quarantine, but even more so with that of the absolute form. In the class of modified quarantine would belong such diseases as anterior poliomyelitis, cerebrospinal meningitis, measles, typhoid fever and whooping-cough.

With the third or observation quarantine, the health officer should be expected and required to maintain such vigilance of the sanitary management of the case as may, in his judgment, be necessary to safeguard the health of the well. He should never be unmindful of the fact that his sphere is purely that of the sanitarian, the promoter of health, and not that of the diagnostician or the physician. In his real capacity he can be of invaluable assistance to the attending physician and of inestimable protection to the family and the community. The diseases which might well be placed under this degree of quarantine, are tuberculosis, malarial fever, cancer, ophthalmia neona-

torum, pneumonia, hydrophobia, tetanus and pellagra, an intelligent observation of which would, as you can readily appreciate, accomplish most brilliant results. No placarding of the house is contemplated with this degree of quarantine. It matters not what the disease may be, or the degree of quarantine to be maintained, you as health officers, must always be conscious of the fact that the burden of responsibility rests on your shoulders. This need not necessarily mean that you should bear the full burden of such duties. On the contrary it is far preferable that you should share such responsibilities with the attending physician. In every instance let him understand that you look to him for assistance and that he may expect the same favor at your hands. Impress him with the idea that such success as you may attain in the case belongs equally as much to him as to you. Make him feel that you are in the case only in an official capacity, and that for the protection of the health of the people. Let him feel privileged to make your position plain to the family that they may fully appreciate your combined skill and energy are being utilized for their care and protection. With such mutual co-operation between health officer, attending physician and family, the highest possible efficiency will be accomplished, not only in matters of quarantine, but in general sanitation, and as health officers this should be your constant endeavor.

Isolation bears somewhat the same relation to quarantine that the latter does to notification, in that one is essential to the other and both are absolutely necessary for the success of either. While notification is a prerequisite to quarantine, isolation is an indispensable to quarantine. These three terms are bound inseparably together, being integral parts of the same chain of preventive measures, which are indispensable for the suppression of communicable diseases. To weaken one weakens the others and endangers the success of the whole plan of prophylactic management. With isolation as with quarantine it should be a matter of degree. Not the same stringent measures are necessary for all communicable diseases, and as with quarantine, even far better results will often be accomplished by enforcing just such a degree of isolation as may be required to insure perfect safety to others, and only such. A needless confinement usually tends to engender resistance and disobedience on the part of

the patient and family, and they should be made to fully understand that they are being given all the freedom of liberty which the disease will permit in safety to their friends and the community. The degree of success with which you meet in maintaining the proper isolation of the patient, will depend largely on the extent to which you can gain his co-operation and that of the family. This is particularly so among the mild cases, in which both patient and family are far too often unappreciative of the actual dangers attending the disease. With all communicable diseases the family must be made to fully appreciate the gravity of the situation. They must be made to realize not only their personal misfortune, but the calamity which they might bring to others were they to disregard the explicit mandates of sanitary isolation. Their position to themselves and to the public should be made one of education. They should be taught its full significance and made to understand what their strict compliance thereto means, not only to their family but to their friends and to the whole community.

Much of this educational work is plainly within the province of the health officer, and no one better than he, is able to carry it on as it should be done, and on him the responsibility naturally falls.

In some respects proper disinfection is even of greater necessity and value in the suppression of communicable diseases than any of the preceding measures. It matters not how early such an infectious disease may be reported to the health authorities or how perfect its quarantine and isolation may be, it still remains a menace to public health until its ejected poison is thoroughly disinfected or destroyed. You can no more rightfully expect to suppress communicable diseases without effectual disinfection. than to establish a quarantine without notification. It is indeed absolutely impossible and impracticable. You can never feel justified in promising protection to an afflicted family or to a community, until you are convinced of the efficiency and thoroughness of the disinfection which has been employed during and after the prevalence of the infectious disease. It really lies at the very foundation of the whole system of prophylactic measures applicable to the suppression of preventable diseases, and should receive the personal consideration of the health officer in its application thereto.

Many of you are, no doubt, familiar from personal experience, with serious consequences which have arisen from ineffective or careless disinfection during or after infectious diseases. How many of you have seen tuberculosis contracted in a house in which a previous patient had either resided or died? How many have seen an outbreak of typhoid fever arise from the hazardous practice of permitting typhoid ejecta to be deposited upon some watershed or accessible to some public water supply, or within the reach of the germ-carrying fly? How many have seen precious lives sacrificed to the infection of diphtheria by utter disregard to the well known perniciousness of the Klebs-Loefler bacillus? How many have had sad experiences with the well known tenacity of the undiscovered germ of scarlet fever? And yet all of these sad results can and should be largely prevented. I believe it is within the possible accomplishment of each of you as health officers to inaugurate and enforce such a drastic system of disinfection during and after the prevalence of an infectious disease in your midst, as to practically preclude the possibility of its further spread. But to do this you must take the matter into your own hands, and either *see* that the disinfection is properly done, or *do* it yourself. I fully appreciate the difficulties which confront you in attempting to give to this matter the time and attention which its importance rightly demands, and yet I know far too well that this line of work as at present done throughout the State, is one that is most sadly neglected and often most imperfectly done. This I say from personal observation, the truth of which I feel certain you, as health officers, will vouch for. It has often seemed to me as if every municipality should have its own efficient and well paid disinfector, whose duty it should be to make absolutely certain that such work is done and properly done. This is, of course, already the case in many of our cities and larger villages, but the practice should be general throughout the State without, however, relieving the health officer of his personal responsibility in the matter. It really seems a serious reflection on the combined intelligence and ability of the medical profession and health officers, that we should permit thousands and thousands of people to die in this State each year from diseases that are known to be preventable, and yet such is the case and has been for hundreds of years. Is it not within the power

of our 1,400 efficient health officers and of the 13,474 intelligent physicians of this State, which is so proud of her Empire supremacy, to unite in such a war of extermination on communicable diseases that this appalling death rate may fall to an insignificant number before our combined energies?

I firmly believe such is possible, and that by the energetic employment of the four cardinal principles of notification, quarantine, isolation and disinfection, we will, at no distant day, find ourselves masters of the situation.

THE TUBERCULOSIS CAMPAIGN,

As Conducted by the State Department.

Read at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

By C. W. FETHEROLF,

Director of Tuberculosis Exhibitions, New York State Department of Health.

Our civilization is not yet sufficiently removed from the age of the stone axe and the bronze spear to permit us to forget that our primitive ancestors owed their very existence to the ability to kill and to hold food.

For centuries before modern inventive genius produced the gang plow, and reaper and binder, locomotive and steamship, humans had more than passing acquaintance with the gaunt spectre of starvation. The slaying of wild animals; the ability to domesticate animals; the capacity to grow, harvest and store, meant life. For hundreds of years the prevention of death from disease had small consideration compared to the prevention of death from starvation.

The famines of India, Russia and Ireland in recent years create but a faint picture of the extent and horror of a famine such as existed, for instance, in Egypt during biblical times when speedy succor from more favored quarters could not be given because transportation facilities had not been developed.

Perhaps it is this primitive fear of want, transmitted down through the ages, that has fastened upon us the spirit of industrialism and commercialism—a love of gain that nurtures selfishness and lust for property—holding to such a degree that examples of men risking and losing their life to gain, maintain or regain physical property, are common.

So to-day we find our nation, our state, counties and cities keenly bent on the preservation of property. An examination of governmental expenditures will reveal that for every one dollar spent directly to preserve human life we are spending hundreds for the prevention of disease in cattle and plants; the conservation of forests; the digging of canals; the construction of good roads and the maintenance of fire and police protection.

But we are on the threshold of a new era—the era of the Man. Thanks to Lunwenhock, Cohn, Lister, Pasteur, Koch, Lenner and others, an amazing field of possibilities for the conservation of human life has spread out before us. We are turning from the grosser to the finer things of life. We are coming to an appreciation of the fact that "Health is first Wealth."

In this evolution the combat of Tuberculosis will be recorded by historians as the first great milestone in popular sanitary progress. It is the first instance in the history of the world, when the people of all nations, in all quarters of the globe, have rallied to a universal standard and united in international bonds for the purpose of ridding the earth of a disease enemy.

Other conflicts will be waged for public health, but this crusade against Tuberculosis will have paved the way, and it seems providential that the mode of warfare that must be adopted against Tuberculosis should also be warfare against all that tend to foster a low stratum of society. The victories over smallpox, bubonic plague and yellow fever have been the victories of the medical profession, and the public had small part in the winning of them.

But in the fight against the tubercle bacillus a larger force must enlist. We must have the physicians; we must have public officials, clergymen, business men, teachers, farmers, mechanics, laborers, housewives and children. We must have all of them, and the great weapon of all must be knowledge.

The struggle against Tuberculosis must be a struggle against the sweat-shop, crowded tenements, long working hours, small wages and against everything that tends to reduce one whit the sum total of human happiness. Therefore, the fight against Tuberculosis means progress, for progress is truly measured by the increase of human happiness.

The discovery of the tubercle bacillus by Koch in 1882, having demonstrated the communicability and preventability of the

most prevalent and greatest death-producing disease, does it not seem strange that almost nothing was done for twenty-five years to take advantage of the knowledge? There was dense apathy on the part of the people because in their ignorance they continued to look on the consumptive as the product of heredity and a person who had urgent need to put temporal affairs in order and pay close regard to the spiritual.

The campaign against tuberculosis is a campaign for popular education that must reach all. Official action is urgent, but it awaits its master—the public.

Methods vary in various countries, and states, in carrying on the fight. Some States, notably Pennsylvania, have adopted the policy of making institutional effort a state effort. The Keystone State in one year appropriated several million dollars for the inauguration of a chain of state hospitals, sanatoria and dispensaries—the latter to be located by counties.

In New York State the policy adopted places the burden of institutional effort on the community and the Legislature in annual bursts of generosity has appropriated the princely sums of from $7,500 to $10,000 to educate the people of the communities as to their responsibilities in this matter.

Progress during the three years these imposing appropriations have been made, has been greatly accelerated by considerable financial aid from the Russell Sage Foundation, capably administered through the State Charities Aid Association. This Association has worked hand in hand with the State Department of Health in carrying on the State campaign, which does not embrace the confines of the City of New York.

We have found in this work of educating the people that they are a great deal like a certain Swede, in that they require a severe "jolt" to make them sit up and take notice that there is such a disease as tuberculosis. The Swede that I am referring to had been summoned before a Coroner's Jury to tell about a railroad fatality. He was told to tell in his own way just how his friend came to his death. He said:

"Val, Olie and me bane valking on the tracks and when I hear a whistle I yust step off de track. Purty soon a train go by. Wol, I go back and walk on the tracks, but when I speak to Oley, Oley don't answer. I look around but Oley not in sight. By'm by I come to Oley's hat laying by the tracks. Pretty soon I come to wan of Oley's arms by the tracks, and then I come by

wan of Oley's legs, and by'm by I see Oley's head laying by the tracks, and then by yimminy, I yust make up my mind dat something must have happened to Oley."

So in the campaign against tuberculosis, we are trying to make the people realize that for centuries something has been happening to them.

The Local Campaign.

The municipal campaign is a strenuous affair. Months before the prospective campaign begins representatives of the State Department of Health, and the State Charities Aid Association visit the city and confer with about a score of the leading citizens for the purpose of securing a formal request that the city be given a campaign. The local Board of Health is asked to appropriate about $200.00 to defray the cost of purely local publicity. About two weeks before the campaign begins a staff representing the two agencies goes to the city and puts through a program of advertising designed to make the tuberculosis campaign the sole subject of public interest.

The fraternal and benevolent societies are circularized; the clergymen are interviewed and asked to deliver a sermon on tuberculosis on the Sunday preceding the opening of the campaign. In some cases they dispense with the regular evening service and hold a joint union meeting on tuberculosis at which Catholic, Protestant and Hebrew clergymen deliver addresses. Every worker in factory or shop receives a card in the pay envelope calling attention to the meeting. The store windows contain cards advertising meetings and the exceptional privilege of placing posters in the street car windows is secured. Columns of press notices are furnished the newspapers and huge banners emblazoned with the international emblem of the fight against tuberculosis—the double Red Cross—span the principal streets. The motion picture shows display slides advertising the exhibition, a week before the campaign begins.

A program of meetings is arranged. There are meetings for school children to be held at the exhibition during school hours and the children are marched there by their teachers. There are usually meetings for the labor organizations; for the fraternal and benevolent societies; for the women's clubs, and in case of a large foreign speaking population meetings are held in the mother tongue; meetings with addresses and lectures in French,

German, Italian, Polish, Swedish and Albanian languages have been held. In a city where there is a United States Army Post an entire regiment of infantry was marched to the exhibit, accompanied by the regimental band.

For the purpose of displaying the large traveling tuberculosis exhibition of the State Department of Health and seating the people who attend the meetings, the largest and most central hall available is secured. This is usually the State Armory with its immense drill hall. The exhibition being disposed about the walls of the hall, seats are placed on the floor; the stereopticon lantern is provided, campaign actually begins.

At each meeting there is a presiding officer, prominent business man, clergyman or lawyer to give an address and a prominent local doctor to give a lecture with a stereopticon lantern. These lectures are accompanied by slides comprising the standard lecture of the Department on Tuberculosis and the doctor is provided days in advance with a booklet in which the slides are pictured in a logical order accompanied by suitable text.

At each meeting the people are urged to keep in mind the big mass meeting with which the campaign will culminate, and the preparations that are made for this meeting are, to say the least, bizarre and unconventional.

Prominent speakers have been secured from out of town; the daily newspapers give whole pages of display advertising for the meeting; the telephone companies on the day of the meeting call up all subscribers and remind them of the meeting. The people are told to listen at 7:30 o'clock in the evening, for at that time the final invitation to attend the meeting is given by the blowing of all the whistles of factories and locomotives and the ringing of the church bells for three minutes.

And then, forth comes the city band or a mass band, and for half an hour before the meeting opens parades the principal streets in the presence of a big transparency with the words, "Come with us to the tuberculosis meeting"—and they do come to the meeting, which is usually held in the biggest theatre in the city. Generally the seating capacity is packed to the limit, and hundreds crowd the aisles and available floor space.

Enthusiasm has been aroused to the highest pitch, and then before the effect of the campaign begins to subside there is organized a permanent local committee to continue the good work so auspiciously started. This committee is affiliated with the tu-

berculosis committee with the State Charities Aid Association. This association, in turn, is the New York State Branch of the National Association for the study and prevention of Tuberculosis, which, in turn, has international affiliations.

With this local committee organized and in good running order the real struggle begins,—the struggle to secure local preventive measures, including a county tuberculosis hospital, a county laboratory, a municipal dispensary, a tuberculosis visiting nurse, a thorough compliance with the law relating to registration of cases and disinfection after removal or death, and medical inspection of school children.

Oftentimes the influence of one city, even though it is the principal place in the county, is not equal to the task of securing action from the Board of Supervisors. There are outlying villages, hamlets and rural districts whose representation in the Board of Supervisors is slow to perceive the necessity of county action.

In order to create in this large constituency a demand for a county institution, the State campaign has been made to embrace in its propaganda a series of campaigns in the villages and hamlets of those sixteen counties in which there seems to be the best prospects of securing favorable action.

Six small exhibits in charge of paid demonstrators will visit nearly two hundred places, and an important duty of these demonstrators is to secure petitions from as many citizens as possible asking the Board of Supervisors to provide a county tuberculosis hospital. In nearly every county in this list the exhibits will be installed in the rooms in which the supervisors meet, and the supervisors are prevailed upon to make the subject of tuberculosis a special order for a certain day.

Now as to Results.

It is still too early to expect any marked reduction in the mortality of tuberculosis as shown by statistics, although I have no doubt there has in reality been a pronounced decrease. I think that for a number of years the actual decrease of deaths from tuberculosis will not show in statistics because the physicians will report deaths from tuberculosis more truthfully.

Three years ago there was not a county tuberculosis hospital, sanatoria, in the State; to-day such hospitals are in actual opera-

tion in four counties, and four others have authorized their construction.

Three years ago there was scarcely a city in the State excepting the metropolis, that had a tuberculosis hospital dispensary or a tuberculosis visiting nurse. To-day there are five cities having a nurse, free dispensary and hospital. Twelve have two of the above named agencies, and eight have at least one of the preventive measures in force.

Three years ago there were not more than two local committees for the prevention of tuberculosis; to-day there are seventy-three such committees scattered about the State.

During the three years the State Campaign has been in operation, progressive laws have been enacted in behalf of the effort to stamp out tuberculosis, and all indications point to a glorious fulfilment of the prophesy "No uncared for tuberculosis in New York in 1915."

PUBLIC HEALTH AND THE DENTAL PROFESSION.

Read at the Tenth Annual Conference of Sanitary Officers of the State of New York, held at Buffalo, N. Y., November 16, 17 and 18, 1910.

By W. G. EBERSOLE, M. D., D. D. S.,

Cleveland, Ohio,

Chairman of the Oral Hygiene Committee of the National Dental Association.

Permit me to say that I feel highly honored indeed at being invited to come before the annual conference of health officers of the great State of New York. It is my belief that this is the first time in the history of medicine and dentistry that a dentist has been called upon to address the members of a State Department of Health, in even the smallest State in the Union, to say nothing of a great State like New York.

Therefore, I say to you that I consider it a great honor and a great privilege to be permitted to talk to you upon this occasion.

I fully understand that the courtesy which you have extended to me comes not because of the fact that I am a member of the medical profession, hut, because I am also a member of the dental profession; and because it was from the latter profession that you wished to hear.

I wish to say to you, gentlemen, that in recognizing the dental profession you do honor and credit unto yourselves. You do

honor unto yourselves by thus proving the broadness and progressiveness of your organization in recognizing the great need for dental service; and you do credit unto yourselves by being the first State organization composed of medical men to recognize and seek information upon the "Relationship of Public Health and the Dental Profession."

It is particularly fitting that the health officers of the great State of New York should be the first to extend a place upon their program to a dentist to be present and discuss with you this phase of sanitation and health; and. your so doing comes as a recognition and reward for the great amount of work which has been done within your State by the dental profession, with the ultimate end in view of having your honorable body give full recognition to the importance which oral hygiene bears to general hygiene and sanitation.

To the Rochester Dental Society belongs the credit of having done more successful work in the oral hygiene field than any other city in the universe; and, my being here this morning to discuss this question before you is due more to the interest of the Oral Hygiene men of Rochester than to any other cause.

It is particularly gratifying to me to know that two of the greatest disciples of oral hygiene in your State are to follow me in the discussion of what I am to say to you.

By the way, gentlemen, I would call your attention to the fact that the names of the three dental men, who are to discuss this question this morning, begin with "William." Over in our town we have a habit of saying "Let George do it." I see by your program that over here in York State you sometimes have "William do it."

But, to business, gentlemen, the time allotted me is short and I do not wish to impose upon the courtesy extended to the dental profession.

The question of "Public Health and the Dental Profession" is one which for years I have considered of vital importance.

Years ago as a law student, my health failed and I was led to give up my legal studies and was for a time employed to introduce to the dental and medical profession the then newly discovered local anesthetic "cocaine." My duties brought me in close touch with dentists and their patients; and the conditions which I found in the mouths of the laity at that time were

simply appalling. I found that thousands of people were practically physical wrecks as a result of faulty oral conditions.

Young and old alike were struggling through life with a fearful oral handicap.

So thoroughly impressed was I at that time that I became convinced that a man who would educate himself in such a way as to be able to educate the people to a point where they would realize the true value of healthy oral conditions, would fill a greater want than in any other profession. For twenty-three years, five years as a layman, five years as a student, and thirteen years as a member of the profession, I have been turning much of my time and my attention in that direction.

Within the past two years it has been demonstrated beyond any question, that 96 to 97% of the school children of this land are in need of actual care and treatment from a dental standpoint.

In other words, gentlemen, 97% of the mouths of the school children of this country are in an unsanitary and unhealthy condition.

What is the meaning of such a condition as this?

For years the health organizations throughout the country have been spending millions of dollars in their efforts to bring to the human family food stuffs and drink free from micro-organic life which would produce pathogenic conditions within the consumer.

I repeat, millions have been spent for this purpose. Much good has been accomplished, to be sure. But, let me ask this body of intelligent and scientific men how much we have gained when we have brought this thoroughly sanitary and hygienic food stuff and drink to the consumer, at this tremendous cost, and then before it can reach the source for which it was intended, that is, the nourishing of mankind, it must pass through grinding machines, 97% of which are filled with pathogenic micro-organic life, there to have thoroughly mixed and incorporated with them the very class of germs which your valuable organizations have been fighting to destroy or eliminate from these necessities of life.

I again ask, how much have we gained? I am willing to concede that a great amount of good has been accomplished; but, that which has been accomplished is so infinitesimally small

as compared with that which might have been derived had a few of the millions which have been spent in keeping food stuffs free from pathogenic micro-organic life, been spent in giving to humanity, or in teaching humanity how to have food grinding machinery which was healthy and free from pathogenic micro-organic life.

With 97% of the people with diseased or defective mouths, every one of which is a harbinger of pathogenic micro-organisms, I would ask if we have not overlooked and neglected in our research for sources of infection, the greatest producer, and at the same time the widest disseminator of pathogenic micro-organic life.

I need not tell this scientific body that in the one hundred and fifty and over, of micro-organisms which have been found to inhabit the human mouth, many of those pathogenic organisms which you have been fighting for years are constantly found.

In addition to this, I wish to call your attention to the fact that the mouth not only contains, but breeds, and disseminates pathogenic micro-organisms, which are to-day wielding a stronger detrimental influence to the human family than those which you have been so nobly fighting for all these years. I refer, gentlemen, to the streptococcus media, which produces caries, or decay of the teeth. Caries, or decay of the teeth, is the most prevalent disease known to modern civilization.

You are familiar and thoroughly conversant with the manner and means whereby the organisms which produce typhoid fever, scarlet fever, diphtheria, pneumonia, and tuberculosis, are transferred from one individual to another; and know only too well the tremendous havoc these organisms are capable of producing when unrestrained.

But, I want to say to you, gentlemen, that the micro-organisms which produce caries, or decay of the teeth, are just as readily transferrable from child to child and from adult to adult as the other organisms just mentioned; and, are wielding a far greater havoc in the human family than all the others put together.

I am well aware, gentlemen, that the words just uttered will lead some of you to say that the speaker is either crazy or a fool to make such statements; but, I can assure you that neither is the case.

When you have given as much thought, time and consideration to the study of this question as the speaker has given, you will then begin to realize something of the tremendous influence for evil these "tooth-destroying" micro-organisms are wielding in the human family.

In support of my statement, let me quote from Professor Osler, a man from your own ranks, who was sufficiently well posted in this direction to make the following statement before a body of dentists and dental students a couple of years ago. He says:

"You have one gospel to preach, and you have to preach it early and late, in season and out of season. It is the gospel of cleanliness of the mouth, cleanliness of the teeth, cleanliness of the throat. These three things must be your text throughout life. Oral hygiene, the hygiene of the mouth—there is not one single thing more important to the public in the whole range of hygiene than that."

It is but reasonable then that a dental man should make such a statement as I have made when there has been enough in this question to merit Dr. Osler's statement.

Let us consider for a moment. We have told you that 97% and over of the mouths of the people of this country are diseased; and, that in every one of those 97% the "tooth-destroying" micro-organisms are found. And, in every mouth where the "tooth-destroying" micro-organisms are found, we have a pathogenic condition, and in every mouth where these organisms are permitted to become active, the best possible breeding places are found for the pathogenic micro-organisms with which you gentlemen are so familiar.

Not only do the "tooth-destroying" micro-organisms aid in producing breeding ground for other pathogenic micro-organisms, but they, by their action produce two of the most favorable conditions for possible infection.

First, by their activities around the necks of the teeth they produce softened and bleeding gums, which offer an excellent opportunity for infection. But, worst of all, they, by their inroads into the tooth substance destroy the dental tissue until the dental pulp is exposed, producing the best and probably the most frequent means of infection which takes place in the mouth.

A tooth with an exposed pulp, or more particularly one with

a dead pulp; the cavity or pulp chamber of which is filled with pathogenic micro-organisms, becomes the best possible means for infection, because in the chewing of the food the pulp chamber acts in the capacity of the barrel of a syringe, and the food stuffs forced into the same act as a piston, thus forcing the contents into the soft tissue at the apex of the tooth.

The percentage of infection which takes place from this means, no man can estimate. But, when we consider that of the enormous number of mouths that have dental lesions at least 50% of them show teeth which contain exposed or putrescent pulp, we may be able to explain many of the heretofore "not understood" sources of infection.

During the past year, it has been my privilege three times to occupy and speak from the same platform with that gifted and tremendous force in the sanitary world, Dr. W. A. Evans, Commissioner of Health of Chicago. The last time we were together he spoke on the subject of "The Dentist and Public Health;" a subject almost identical to that assigned to me this morning.

Dr. Evans has given considerable thought and attention, during the past two years, to this phase of sanitation and hygiene; and has been working hand in hand with many of the leading members of the dental profession in his city, and I therefore desire to quote some of the statements he made upon the occasion above referred to. He says:

"In the first place, the mouth is regarded now more and more as of relation to contagious diseases. About a month ago I was at the meeting of the American Public Health Association held in Milwaukee, and great stress was there put on the relation of the secretions of the mouth, of the cavities accessory to the mouth, to scarlet fever, to diphtheria, and to measles, to which with perfect propriety can be added consumption, pneumonia, and common colds. In times past in considering the care of the person who has had scarlet fever we paid great attention to the skin. It is but recently that we have come to understand that the skin was of minor importance in spreading scarlet fever, if it was of any importance at all, and after cases had been held for the customary six weeks or thereabouts in the hospital, had been held until all scaling of the skin had ceased, and then had been returned to their homes, had been returned to the family circle in which there were children susceptible to

scarlet fever, that a certain percentage of cases would occur as a result of those contacts. Later we came to understand that the child supposed to be clear of contagion, in reality was spreading contagion or carrying contagion back into the home and then we came to know that the means by which contagion was carried was the secretion of the mouth and the accessory cavities of the ear, the nose, the nasal phalanx, that contagion was held in the crypt of the tonsils, in recesses in the mucous membrane, in the nasal phalanx, in the secretions of the ear, and then we came to know the possibilities around the teeth that had not been properly cleaned and in cavities that were filled with organic matter of various characters, that there might be elements of contagion; and what is true of scarlet fever is probably still more true of diptheria. That the bacilli capable of infection lurk in the crypts of the tonsils, in the mucous membrane, around the roots of teeth, around the gum borders of teeth, in cavities in teeth; and after these things we have been watching have been proven to be clear and we have allowed the children to go among the other children of the family that contagion is carried to them through these means of carrying hitherto overlooked, probably of greater consequence still and very greater consequences is the possibility of the spread of contagion in the cases of pneumonia, common colds and consumption. The dental profession, the work of the dental profession, teeth cared for and teeth uncared for, is, therefore, a matter of great concern in the prevention of the spread of a contagious disease."

When a man of Dr. Evans' calibre, who has given less than two years' thought and study to the influence the mouth may wield in the transmission of contagious diseases, has been sufficiently impressed to call forth the statements which I have just read in your hearing, I would ask what must be the impression upon the mind of one who has given years of thought and study in this particular direction; and, in the light of one who has so studied and investigated, I wish to repeat that the microorganisms which produce caries, or decay of the teeth, are just as readily transferrable patient to patient as any other microorganisms, and are wielding far greater havoc than all the others put together.

Thus far I have spoken of the mouth and the influence it wields for good or for evil from the hygienic standpoint.

In the medical profession, we have specialists who devote their time and attention to every other part of the body, save the mouth. The medical men have side-stepped here and left the mouth to the dental men. The medical men have considered the dental men the oral specialists; and the dental men, almost to a man, have until recently failed to grasp the full responsibility which rested upon their shoulders and realize that upon them rested the importance of proper oral conditions.

Most dental men have been tooth specialists instead of oral or mouth specialists. It is only when the dentist realizes his responsibility in the latter capacity that he assumes his true relation to the public health in his community.

With oral conditions as we find them, and with the influences they exert upon the public health and general welfare of the human family fully recognized and the dental profession alone occupying the field of oral specialist, it is to this profession that we must turn for the correction of the faulty conditions which here exist. To him belongs the mission of teaching prevention, and practicing correction of dental lesions. In teaching prevention he must do so from two standpoints. First, he must teach that a clean tooth never decays, and must therefore instruct his patients in the performance of a correct sanitary dental toilet. He must also teach that "a lazy tooth becomes in time a rotten one." He must therefore teach when and how to properly use the teeth that they may not only perform their full duty as related to the general digestive tract; but, that they may in turn, by their proper activity aid in their own self-preservation.

And, last and least, it is his, when the dental lesions occur, to correct or repair the same.

Too often with the dentist of the past the last has been first and the first has been last; but, to-day, thanks to the activity of the few, the many are awakening to the importance of and giving full thought and consideration to prevention, while correction and repair is assuming its proper position in the scale of importance, that is, that of being secondary to prevention.

To the dentist then belongs the mission of teaching how and aiding in keeping the mouth in the condition and for the purpose for which the Creator intended it.

With the dentist responsible for the condition and use of the mouth, it becomes necessary, in order to establish the true re-

lation of the dentist to the public health of the community, to show what influence the mouth bears in that capacity.

I know of no better illustration of what an important part the mouth plays in the health of the individual, than that which has been shown by the activities and research work done by Mr. Horace Fletcher, a man who at the age of forty was a physical wreck, being on the scrap heap, as he called it, denied insurance by insurance corporations; and condemned to an early death by the examining physicians, has, by the proper use and care of the oral cavity, produced from a physical wreck at the age of forty, a man who at the age of sixty is able to practically double the greatest feats of strength and endurance performed by the best athletes of the leading colleges of the world.

Not satisfied with the experience of one individual, the speaker, in the name of the Oral Hygiene Committee of the National Dental Association, has undertaken to prove the actual value of the proper use and care of the mouth upon the working efficiency of forty children, selected from Marion School, Cleveland, Ohio, as having the worst oral conditions out of an enrollment of eight hundred and eighty-six pupils.

In selecting these children a complete and careful examination of the mouths were made and the history and class records of the children taken for six months preceding the time treatment was begun. Two psychological tests were made to prove the actual working efficiency of the children at the time they were received for care and treatment. They were then placed under the instruction and care of a nurse to teach them how to use and care for their mouths; and dental service was furnished to correct all faulty oral conditions. The majority of these children were repeaters, and some of them were only kept in school by the truant officer. Special meals were served to teach the children how to properly use their teeth.

It is yet too early to state just what results will be shown by the experiment conducted with this class owing to the fact that we are just in the midst of our work and our records will not be completed until after the first of June, 1911. But we have progressed sufficiently far to be able to say to you that the most marked improvement has been shown.

The work with this class was begun the first of June, 1910, and from that time down to the present, there has not been a single case of illness of any member of the class, and the school

records in scholarship, effort, attendance, and conduct, show wonderful improvement. So much so indeed, that not only the Principal of the school, but, every one who has had any opportunity to know and be familiar with the class, speaks in the most glowing terms of the results which have been accomplished.

The work has progressed far enough, gentlemen, for me to make the statement that when the final results are compiled they will be of sufficient importance to command and hold the attention of every man who is interested in the general welfare of humanity.

The importance the mouth then bears, gentlemen, to the general physical condition of mankind, entitles it and those who are devoting their lives to its needs, to full recognition and consideration by those organizations, Municipal, State and National, which have to do with the physical welfare of the human family.

Every organization which has health for its consideration, should have not only in its Council, but in its inspection department, as well, members of the dental profession. And, just as sure and as certain as I stand before you this morning, those organizations which are the most progressive and successful in the handling of public health questions, will have the dental profession well represented in every department. Think not that there is no need for dental representation in connection with health Boards or Bureaus; and, think not that the medical men can successfully handle this important phase of hygiene and sanitation, for such is not the case. Conditions are so appalling, and the dental lesions so distressing, and the physical condition so impaired by faulty oral conditions that only dental activities of the most forceful kind can wield sufficient weight and influence to produce a psychological impression which will in a measure lead to a full understanding by the individual of the obligation and duties he must perform if conditions are to be met and corrected.

The people must be taught to know and do those things which will produce and maintain perfectly healthy oral conditions; and to the dental profession alone belongs this duty and this obligation and they must fulfill them if humanity is to come into its own.

I recommend, therefore, to you, gentlemen, that members of the dental profession, not only be invited to work with you; but, that they be given appointments and recognition in con-

nection with your various departments of public health and inspection if you would do the greatest good to the greatest number. For, to the health organization which first takes this step, will be given the credit of being first to read the "signs of the times" and recognize the importance of a great reform movement which is sweeping throughout the world.

Believing that the Health Officers of the great State of New York here assembled will not only see the importance of such a movement; but, will pass a resolution recommending such action, I close.

I thank you.

Editorial

> "The doctor!" she repeated, disdainfully. "I brought Grace back last night in sheer despair, and I sent for the doctor this morning. He is at the head of his profession; he is said to be making ten thousand a year; and he knows no more about it than I do. I am quite serious. The great physician has just gone away with two guineas in his pocket. One guinea for advising me to keep her quiet; another guinea for telling me to trust to time. Do you wonder how he gets on at this rate? My dear boy, they all get on in the same way. The medical profession thrives on two incurable diseases in these modern days—a He-disease and a She-disease. She-disease—nervous depression; He-disease—suppressed gout. Remedies, one guinea if *you* go to the doctor; two guineas if the doctor goes to *you*. I might have bought a new bonnet," cried her ladyship, indignantly, "with the money I have given to that man!"
>
> *The New Magdalen.* WILKIE COLLINS.

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The Ideal Hospital Superintendent.

The peculiar mental qualifications which go to make up the ideal hospital superintendent are not universal, and it is often a matter of wonder that men can be found to fill this position with the temperament and the knowledge to carry on successfully its complicated duties. The combination of professional knowledge and business acumen requires such an unusual harmony of con-

tradictory mental traits that it may be regarded as almost unobtainable. That it is not entirely so is revealed by the fact that there are many successful hospital superintendents whose administration is beyond criticism.

The retirement of Colonel Warburton from the superintendency of the Edinburgh Royal Infirmary has been made the subject of special comment in the *Edinburgh Medical Journal*, and his successful administration is made the occasion of a speculative discourse upon the difficult duties of a position of this kind. This analysis of what is required of a hospital superintendent is so concise that it will well bear repetition:

"The superintendent must keep a firm hand on the purse-strings, and yet must be ready to spend liberally on necessary advances. He has to control the more imperious members of the staff, and see that the no less deserving, but less insistent, ones, get fair play. He has to take part in all those numerous conferences at which hospital administration, hospital abuse, nursing legislation, and such like vexed questions are keenly discussed, and in each of them he has to tread a narrow and thorny path. * * * He has to supervise and check the expenditure of an enormous amount of money; he has to keep the peace between the managers and the staff; and he has—some say the most difficult task of all—to control the cheerful spirits of the Residency.

"In the past most of the applicants have been men nearing the conclusion of a career in one or other of the Services, whose experience in administration had been greater than usually falls to the lot of medical men. In the future it seems not unlikely that hospital administration will develop into a new medical specialty, and that men will devote themselves to it comparatively early in their career, and it seems possible, even probable, that, in the inevitable changes of the poor law, the head of the poor law infirmaries will be a medical man with administrative as well as medical control."

That Albany has been so fortunate in the administration of its various charities is a matter for congratulation. The difficulties and the successes are not always appreciated, and gratitude that the spirit of administration has been so well observed should be the general sentiment of the city.

Scientific Review

Progress of the Year in Obstetrics.

Dr. George L. Brodhead, in a recent issue of the *American Journal of Obstetrics,* discusses the more conspicuous topics of advance during the past year in obstetrics.

Momburg's Method of Artificial Anæmia by Aortic Constriction.—Devised in 1908, the method consists in encircling the abdomen with rubber tubing which is tightened until the femoral pulse cannot be felt. Subsequently transient cardiac disturbances are avoided by gradually restoring the circulation. "Post-mortem findings have confirmed the harmlessness of the method." The procedure is urged as an efficient method of controlling bleeding, making possible full preparation for its permanent control but contraindicated in the very thin and in conditions of chronic intestinal inflammation.

Choice of Anæsthetic in Toxæmic Cases.—Cragin and Hull, from the similarity in the pathological findings in eclampsia, delayed chloroform poisoning and chloroform anæsthesia and from the work already done in producing delayed chloroform poisoning in dogs, believe that the use of chloroform in toxæmic and eclamptic cases can but further damage the already impaired liver and kidneys. Judging from the effects upon the liver and kidneys in animals at least, ether may be used with little if any effect upon these organs compared with the marked changes produced by chloroform. Ether has been used in eclamptic cases at the Sloane Maternity for the past year; the mortality has decreased from 28.3 to 5 per cent.

Cesarean Section.—Vaginal Cesarean in competent hands has definite indication in the induction of labor where the ordinary means of cervical dilatation are ineffectual. The "classical" Cesarean section presents a decreasing mortality now but a little over one per cent. Suitable cases are such as have examined "once for all" and are without temperature. The examination of the secretions, the protection of the abdominal cavity and the greatest possible hemostasis (secured by means of a rubber tube about the cervix) are among the essentials of the perfected technique urged. The results in extra peritoneal Cesarean section are not as satisfactory. Urged essentially in cases of suspected infection, the poor results in general have followed in those cases later found to have been infected at the time.

Pubiotomy or Hebosteotomy.—Such generally unsatisfactory results have attended the operations in Europe that it is the belief in Leopold's clinic in Dresden that "the operation should be done only in the hospital, never on primiparæ and that any infection, nephritis or cardiac disease constitutes a contra indication."

Highly satisfactory results have been secured in the cases (25) reported by Williams, who claims that the operation is indicated in "uninfected cases with contracted pelves with conjugata vera of 7 cm., the so-called "border-line pelves" with which the patients may be subjected to the test of labor and the operation later done if the test is unsuccessful."

Therefore it does not encroach upon the field of the classical Cesarean section but should be regarded as "a primary operation whose dangers are infection, deep tears and hemorrhage."

PAUL T. HARPER.

Public Health

Edited by Joseph D. Craig, M. D.

HEALTH OFFICER, ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, DECEMBER, 1910.

Deaths.

Consumption	24
Typhoid fever	2
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	1
Grippe	2
Diarrhœal diseases	3
Pneumonia	29
Broncho-pneumonia	4
Bright's disease	22
Apoplexy	11
Cancer	16
Accidents and violence	13
Deaths over 70 years	52
Deaths under 1 year	14
Total deaths	208
Death rate	24.48
Death rate less non-residents	21.06

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	11	8
County House	5	3
Homeopathic Hospital	10	5
Child's Hospital	0	0
Public places	2	1
Hospital for Incurables	0	0
Little Sisters of the Poor	2	0
St. Margaret's Home	1	0
St. Peter's Hospital	6	5
Austin Maternity Hospital	1	0
Albany Hospital, Tuberculosis Pavilion	3	0
Confederation of Labor	0	0
Dominican Convent	1	1
Totals	42	23

Births	125
Still births	3

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred sixty-eight inspections made, of which sixty-eight were of old houses and one hundred of new houses. There were forty-six iron drains laid, twenty-six connections to street sewers, twenty-six tile drains, one urinal, twenty-four cesspools, sixty-two wash basins, seventy-four sinks, sixty-one bath tubs, fifty-three wash trays, three trap hoppers, eighty-seven tank closets and three shower baths. There were ninety-nine permits issued, of which eighty were for plumbing and nineteen for building purposes. Twenty-nine plans were submitted, of which two were for old buildings and twenty-seven for new buildings. Thirty-five houses were tested, three with blue or red, six with peppermint and twenty-six water tests. Thirty-two houses were examined on complaint and eighty-five were re-examined. Nineteen complaints were found to be valid and thirteen without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	6
Scarlet fever	5
Diphtheria and croup	11
Chickenpox	3
Infantile paralysis	0

Measles	2
Whooping-cough	0
Consumption	45
Total	72

Contagious Disease in Relation to Public Schools.

	D.	S.	F.
Public School No. 3	2		
Public School No. 21	1		
Public School No. 22	1		
High School	1		
St. Ann's School	1		
Cathedral School	1		

Number of days quarantine for diphtheria:
Longest..... 26 Shortest..... 5 Average..... 18 1/7
Number of days quarantine for scarlet fever:
Longest..... 45 Shortest..... 29 Average..... 34
Fumigations:
Houses ..... 36 Rooms 139

Cases of diphtheria reported	11
Cases of dihtheria in which antitoxin was used	11
Cases of diphtheria in which it was not used	0

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive	23
Negative	19
Failed	0
Total	42

TUBERCULOSIS.

Living cases on record December 1, 1910		350
Reported during December:		
By telephone	0	
By Bender	0	
By card	32	
	32	
Dead cases reported by certificate	4	
		36
		386

Dead cases previously reported	15	
Dead cases not previously reported	4	
Duplicates	1	
Recovered	1	
Removed	4	
Unaccounted for	0	
		25
Living cases on record January 1, 1911		361
Total tuberculosis death certificates filed December		24
Out of town cases dying in Albany	2	
Out of town cases dying in Albany Hospital	1	
Out of town cases dying in County Hospital	2	
		5
Net city tuberculosis deaths		19

Bureau of Pathology.

Bender Laboratory Report on Diphtheria.

Initial positive	10
Initial negative	61
Release positive	19
Release negative	51
Failed	21
Total	162
Test of sputum for tuberculosis:	
Initial positive	25
Initial negative	23
Total	48

Miscellaneous.

Mercantile certificates issued to children	24
Factory certificates issued to children	10
Children's birth records on file	34
Number of written complaints of nuisances	34
Privy vaults	0
Plumbing	24
Other miscellaneous complaints	10
Cases assigned to health physicians	68
Calls made	178
Number of dead animals removed	385

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nursing—Statistics for December, 1910.—Number of new cases, 168; classified as follows: Dispensary patients receiving home care, 5; district cases reported by health physicians, 3; charity cases reported by other physicians, 55; moderate income patients, 70; old cases still under treatment, 147; total number of cases under nursing care during month, 315. Classification of diseases for the new cases: Eye and ear, 1; medical, 58; surgical, 16; obstetrical under professional care, mothers, 45; infants, 42; skin, 2; infectious diseases in the medical list, 17; infectious diseases in the surgical list, 4; removed to hospital, 3; deaths, 13.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; medical students in attendance, 2; guild nurses in attendance, 2; patients, 2; visits by head obstetrician, 9; visits by attending obstetrician, 0; visits by students, 16; visits by nurses, 26; total number of visits for this department, 51.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,614; for professional supervision of convalescents, 292; total number of visits, 1,906; cases reported to the Guild by five health physicians and 52 other physicians, graduate nurses 8 and pupil nurses 14 on duty.

Dispensary Report.—Number of clinics held, 82; number of new patients, 75; number of old patients, 396. Classification of clinics: Surgical, 12; nose and throat, 8; eye and ear, 16; lung, 10; skin and genito-urinary, 7; stomach, 2; medical, 12; children, 10; gynecological, 7.

The New Medical College Building.—At a meeting of the Board of Supervisors of Albany County, held late in December, a committee was appointed to consider the proposition that the penitentiary site be given to the Albany Medical College. This would be an ideal position for new buildings as the tract of land comprises forty-four acres, facing the car line and in close proximity to the laboratory and Albany Hospitall. It is earnestly urged that each resident living in the vicinity use his influence to have his supervisor vote for the project and influence the residents of Albany.

Macdonald Memorial.—The result of the meeting held at the Historical and Art Society Building on January 7th was that a suitable memorial in the form of a laboratory be built in memory of Dr. Willis G. Macdonald. It is seldom that a man in private life is so universally eulogized and the memorial will be a monument to the spirit of gratitude of Albany, as well as to the memory of the late surgeon. Dr. Charles A. Richmond, of the University, presided. He was introduced by Dr. John H. Gutmann, president of the Albany County Medical Society. Letters of regret were read by Dr. MacFarlane from Drs. E. A. Vander Veer

and Ward, who were unable to be present. The resolutions, drawn up by the following committee: Dr. J. L. Archambault, Dr. J. M. Mosher, Dr. Leo H. Neuman, Dr. Andrew MacFarlane, Dr. James Rooney, Dr. H. E. Lomax, Dr. A. J. Bedell, were read by Dr. James F. Rooney.

"A distinguished surgeon and honored member of this Society, who, even at his admission in 1888, foreshadowed renown, has in the noonday of life, passed to the great beyond. From the inception of his membership his activity in the deliberations of our Society was marked.

"To its lustre he added by his officership as secretary, vice-president, president and delegate to the State Society. His contributions to the professional world were remarked for their cogency, their reason, and their brilliant discernment.

"In the halls of legislation he always, by presence and voice, championed the interests of the commonwealth and added to the honor of the profession.

"It has pleased the author of all things to take from us in the midst of his service, His servant, Willis G. Macdonald. Not for ourselves alone do we sorrow, but for the people of the city, State and nation, over the loss of one who to great brilliancy added sound reason, to great place a great humility, to great attainment a great studiousness and to great loyalty a great friendship. Therefore, be it

"*Resolved,* That we, the Medical Society of the county of Albany, do add our tears to theirs who sorrow for a son and brother, while for a friend beyond price, a surgeon of great worth, a beloved teacher, a man above men. And be it also

"*Resolved,* That this expression of our grief be spread upon the minutes of our Society and a copy thereof be transmitted to the relatives of our departed colleague."

Dr. Richmond eulogized Dr. Macdonald to some extent, but said that the meeting was not held to pay formal tribute to the memory of the famous physician.

"It is how much he gave, instead of how much he left," said Dr. Richmond. "It was the keynote of his life, to give, and we are here to-night not only to think of our friend, but to settle our debt in a small way, by informally expressing the feeling in our hearts."

Medical Society of the County of Schenectady.—The regular meeting was held at the County Court House, Tuesday, January 10, 1911, at 8:30 P. M. Dr. Jerome Meyers, of Albany, N. Y., presented a paper on "The Differential Diagnosis of Early Carcinoma of the Stomach and Benign Subacidity."

State Department of Health a Pioneer in Crusade for Clean Mouths—Albany.—By the appointment of Dr. H. L. Wheeler, of New York city, and Dr. W. A. White, of Phelps, as Dental Consultants and Special Lecturers on Oral Hygiene of the New York State Department of Health, Commissioner Eugene H. Porter has earned the distinction of being the first State Commissioner of Health in the United States to

take an active part in the crusade for clean mouths and to enlist the assistance of members of the dental profession on behalf of the health of the community.

The duties assigned to Dr. Wheeler and Dr. White comprise the giving of public lectures on the subject of oral hygiene and the prevention of tooth decay and consulting with local health boards and school authorities with regard to the starting inspection of the teeth of school children and the opening of free dental clinics.

Dr. Gulick, President of the School Hygiene Association, has estimated that two decayed teeth in the mouth of a child are sufficient to retard the child six months in its studies.

Decay of the teeth, technically known as dental caries, is a germ disease, and Commissioner Porter thinks that, as a germ disease, it should receive the consideration and attention of State and local boards of health, just as these have been given to scarlet fever, diphtheria, tuberculosis and other germ diseases.

Decayed teeth are very prevalent among school children and adults. School inspectors in New York city report that ninety per cent. of school children are in need of the professional services of a dentist. Dental decay interferes with the proper mastication and digestion of food and leads to ill nourishment. Moreover it produces in the mouth a condition which is very favorable to the growth of other disease germs such as those of diphtheria and scarlet fever, so that measures to prevent the decay of the teeth and improve the condition of the mouths of school children will also help to control the development and spread of other common communicable diseases.

The text of the lectures on oral hygiene will be that a clean tooth never decays and that a lazy tooth becomes in time a rotten tooth.

To Conserve Eyesight.—At a meeting of physicians and laymen at the United Charities Building a National Association for the Prevention of Blindness and the Conservation of Eyesight was formed.

Registration of Births and Deaths Census.—The Census Bureau issues a Physicians' Pocket Reference as to the causes of death in a small, compact pamphlet of twenty pages, divided into sections as follows—International Causes of Death indexed under the headings:

I—General Diseases.
II—Diseases of the Nervous System, and of the Organs of Special Sense.
III—Diseases of the Circulatory System.
IV—Diseases of the Respiratory System.
V—Diseases of the Digestive System.
VI—Nonvenereal Diseases of the Genito-urinary System and Annexa.
VII—The Puerperal State.
VIII—Diseases of the Skin and Cellular Tissue.
IX—Diseases of the Bones and of the Organs of Locomotion.

X—Malformations.
XI—Diseases of Early Infancy.
XII—Old Age.
XIII—Affections Produced by External Causes.
XIV—Ill-Defined Diseases.

A second part devoted to the list of undesirable terms and the reasons why so considered. It closes with a reference of Occupation and other important data and the Extension of the Registration Area of the United States.

The Census Bureau will, upon request, supply physicians' reference leaflets, specimen copies of the Revised United States Standard Certificate of Death, and of the model registration.

THE AMERICAN PROCTOLOGIC SOCIETY'S PRIZE FOR THE BEST ORIGINAL ESSAY ON ANY DISEASE OF THE COLON BY A GRADUATE OF (NOT A FELLOW OF THE SOCIETY), OR A SENIOR STUDENT IN ANY MEDICAL COLLEGE OF THE UNITED STATES OR CANADA.—The American Proctologic Society announces through its committee that the cash sum of $100 will be awarded, as soon as possible in 1911, to the author of the best original essay on any disease of the colon in competition for the above prize.

Essays must be submitted to the secretary of the committee on or before May 10, 1911. The address of the secretary is given below, to whom all communications should be addressed.

Each essay must be typewritten, *designated by a motto or device, and without signature or any other indication of its authorship, and be accompanied by a separate sealed envelope, having on its outside only the motto or device contained on the essay, and within the name, the motto or device used on the essay, and the address of the author.* No envelope will be opened except that which accompanies the successful essay.

The committee will return the unsuccessful essays, if reclaimed by their writers within six months, provided return postage accompanies the application.

The committee reserves the right not to make an award if no essay submitted is considered worthy of the prize.

The competition is open to graduates of medicine (not fellows of the Society), and to members of the senior classes of all colleges in the United States or Canada.

The object of the prize and competition is to stimulate an increased interest in and knowledge of proctology.

The committee shall have full control of awarding the prize and the publication of the prize essay, and it shall be the property of the American Proctologic Society. It may be published in the Transactions of the Society and also as a separate issue if deemed expedient. The committee may increase its membership if deemed advisable.

THE NATIONAL ASSOCIATION FOR THE STUDY AND PREVENTION OF TUBERCULOSIS.—During the next three months the billboards of the United States will display 20,000 educational posters on tuberculosis. The combined value of these donations for this three months' campaign is nearly

$100,000. The posters are seven feet wide and nine feet high, and show in graphic form how fresh air, good food and rest cure tuberculosis, how bad air, overwork, and closed windows lead to consumption, and how the careless consumptive menaces the health of his family by spitting on the floor. In addition to this, April 30th has been set aside as "Tuberculosis Day," and will be observed in 200,000 churches of this country. The ministers are to discuss the subject of tuberculosis and its prevention.

Ohio Association of Medical Teachers.—The sixth annual meeting of the association was held at Columbus, Ohio, December 27, 1910.

Personals.—Dr. William E. Silcocks (A. M. C. '97), has been reappointed coroner's physician of Green Island, N. Y.

—Dr. John F. Heffernan (A. M. C. '01), of Albany, N. Y., has been reappointed coroner's physician.

—Dr. Charles L. Whitbeck (A. M. C. '01), of Cohoes, N. Y., has been appointed coroner's physician.

—Dr. Henry E. Mereness, Jr. (A. M. C. '02), of Albany, N. Y., has been appointed coroner's physician.

—Dr. William R. Rathbun (A. M. C. '09), has moved from Hartwick, N. Y., to East Springfield, N. Y.

—Dr. T. Craig Burns (A. M. C. '09), is now practicing in Oklahoma City, Oklahoma. He has been appointed instructor in Nervous Anatomy and Pathology at the Oklahoma State University.

—Dr. James R. Hunter (A. M. C. '09), is now resident physician at Hart's Island, N. Y.

—Dr. Harry H. Drake (A. M. C. '09), is now engaged in practice at 547 Clinton avenue, Albany, N. Y.

—Dr. S. L. Dawes, of 255 State street, Albany, N. Y., who broke his leg early in January, is now recovered sufficiently to be about.

—Dr. James G. McGillicuddy (A. M. C. '09), has opened an office at Little Falls, N. Y.

Marriage.—Dr. T. Craig Burns (A. M. C. '09), married Miss Maud Stanland, of Buffalo, N. Y., in August, 1910.

Deaths.—Dr. James M. Wheat (A. M. C. '53), of Redlands, California, died at his home on November 27, 1910, from cerebral hemorrhage, aged 85 years.

—Dr. John W. Gould (A. M. C. '80), died at his home, Newark, New Jersey, January 16, 1911, aged 71 years.

—Dr. Frank H. Fisk (A. M. C. '83), formerly of Albany, N. Y., died at his home, West Sand Lake, N. Y., Sunday, January 22, 1911.

—Dr. Newton E. Heath (A. M. C. '83), died at his home, Lee, Mass., January 7, 1911, of heart disease, aged 50 years.

—Dr. John W. Kniskern (A. M. C. '90), died at his home, Amsterdam, N. Y., suddenly, on February 1, 1911.

—Dr. Donald Boyd (A. M. C. '03), died at his home in Valatie, N. Y., suddenly on January 23, 1911.

—Dr. R. Burdette Hoyt (A. M. C. '03), died at his home, Schenectady, N. Y., January 11, 1911, after a short attack of pneumonia, aged 30.

In Memoriam

James M. Wheat, M. D.

After an illness of several weeks Dr. J. M. Wheat died at his home at Redlands, California, November 27, 1910, at the age of 85. His life had been full of activity and he was one of those who gave of his time for the good of his city and state without stint.

Dr. Wheat was born at Franklin, N. Y., in 1825. He was raised on a farm, going to the district schools and to the Delaware Literary Institute. He studied medicine at the Albany Medical College and graduated in 1853. He removed to Minnesota three years later, practicing his profession there until he went to California. In 1862 he was united in marriage to Miss Almira E. Foote. From 1875 to 1877 Dr. Wheat was a member of the Minnesota House of Representatives, and for the next succeeding ten years he was a member of the Minnesota State Senate. While a member of this body Dr. Wheat introduced and secured the passage of a bill forbidding the sale of several million acres of state lands. These lands were at that time considered of very little value owing to their being swampy, but have increased tremendously in value through drainage. The result of this legislation was that several million dollars have been added to the state's school fund, which is now probably in the best condition of any state in the Union.

In 1887 Dr. Wheat went to Redlands. Here he practiced medicine, and, in 1891, was appointed a member of the board of health of the city and elected its secretary, serving continuously in this capacity until a few months before his death.

A widow, Mrs. Almira E. Wheat, a daughter, Miss Ida Wheat, and a son, James F. Wheat, survive him.

Henry W. Boorn, M. D.

Dr. H. W. Boorn, a well-known physician of Otsego county, died very suddenly of acute indigestion, on election night, November 8, 1910, at his home in Schenevus, N. Y.

Henry Webster Boorn was born at Decatur, N. Y., May 11, 1840, and at the age of nine years, with nine brothers and sisters, was left an orphan by the untimely death of his parents. His oldest brother brought up the family. Dr. Boorn received his early education in Cherry Valley Academy and in the old Clinton Liberal Institute at Fort Plain, N. Y. In both of these schools he showed rare ability as a scholar. By hard work and industry, working on farms in summers and teaching school winters, he became able to enter the Albany Medical College where he graduated with honors in the Class of '66. Of this class, as fas as is known, only one member survives—Dr. E. W. Gallup of Stamford, N. Y., Dr. James L. Humphrey of Little Falls, another member of this class, having died September 5, 1910.

In 1868 Dr. Boorn married Kate A. Lane of Milford, N. Y., and located at Colliers, N. Y., and moved to Schenevus, N. Y., in 1873, where he labored continually as a faithful, efficient physician. He was accurate in diagnosing and prompt with a correct remedy. In his large practice for so many years, he was eminently successful and was held in high esteem by the medical profession. He treated old and young, rich and poor with equal consideration and respect. He was never sick and took no vacations. He was always prompt and ready for service. He was well read and kept up to date in his profession. In methods of sanitation he was active and promoted all new methods.

He was the Dean of the Otsego County Medical Society, being one of its charter members, for over twenty years its Secretary, and last June was presented with an ebony, gold-headed cane by the society as an unprecedented token of respect of the Medical Society, and at the same meeting he was made President of the society, which office he held at the time of his death. He was a member during life of the State Medical Society and attended its meetings regularly.

As a Christian, manly man, he had few equals. He was admired by old and young alike, being one of those few men in whom everyone has complete confidence and his advice was frequently sought and found by those in trouble and with burdens they wished raised.

He held all the honors that the community had to bestow upon a trustworthy citizen. At different times he was president of the village, and for many years a member of the board of trustees. He was for many years health officer of the village and of the town. The latter position he held at time of demise.

For twenty consecutive years he was a member of the board of education and served as president and secretary at different times. His interest in education never waned, for he kept posted and continued to be a leader in progressive education. He was a prime mover in a new high school building which is being constructed now.

For over twenty years he was president of the Schenevus Cemetery Association. As a public spirited man he was a model. Interested in all good work and a natural leader, made him a recognized inspiration in public life. Very few men got as much true enjoyment out of life as did Dr. Boorn.

All his life he was a consistent, active member of the Methodist church. For thirty consecutive years he was superintendent of the Sunday school. His religious habits were fixed and uniform. When sudden calls came for him on Sunday, the messenger knew where to find him in his pew at church.

Dr. Boorn's influence is an undying testimony of a life hid with Christ. As long as time shall last, his memory will be a silent instructor in right living.

He is survived by his widow, who for forty-two years was his faithful and loyal assistant, and by two sons: Burt H. Boorn, principal of Congress Street school, Schenectady, N. Y., and Rev. Leland L. Boorn, pastor of the M. E. church at Rendham, Penna.

James L. Humphrey, M. D.

Rev. James L. Humphrey, M. D., died at his home in Little Falls, N. Y., September 5, 1910. He was born in Stockholm, St. Lawrence county, N. Y., August 11, 1829. His father was a lumberman and farmer. He was educated at Stockholm in a select school and high school. He joined the Black River Conference in the M. E. Church in 1851 as a minister, and preached in his native county for six years. In 1857 he went as a foreign missionary to India. He was a pioneer in this work. On his first visit to India he remained seven years, doing general work. He found great need of skilled physicians and so returned to this country, where he entered the Albany Medical College, supporting himself by preaching, and graduating in the Class of 1866.

In 1867 Dr. Humphrey returned to India and was located at Naini Tal for seven years, during which time he educated twelve women to do medical work among the women whom it was practically impossible to reach up to this time. In 1874 he returned to the United States and preached at different places for nine years, when he returned to India for four years, returning for a few years to the United States, and then going to India again, where he stayed five years. He returned in 1901 and permanently located at Little Falls, N. Y.

The regard the people had for Dr. Humphrey amounted to idealization. His life was an open book. His personal attributes so nearly reached perfection as to place him on a plane few attain. His intelligence, culture, ability and devotion have been a tower of strength, and his achievements in the missionary field have probably been approached by no other man. His declining years were comforted by the knowledge of this universal regard and appreciation.

In India Dr. Humphrey translated and published a medical work and established a large central hospital at Naini Tal with six branches at various adjacent points. He superintended all of these for the government during all his stay in India. He wrote a book entitled "Twenty-one Years in India," which is an authority on mission work in that land.

In 1850 he married Emily Trussell, who died in 1894. She was a great help in his work in all lines.

His second wife was Mrs. Nancy Green, who went to India with him and did effective service.

The funeral was held at Little Falls and was largely attended. His remains were buried in Forest Hill cemetery, Utica, N. Y.

Edward Everett Brown, M. D.

Dr. Edward E. Brown, of the Class of 1879 of the Albany Medical College, died October 6, 1910, at the New York State Soldiers' and Sailors' Home in Bath, Steuben county, to which he was admitted on May 24th, and was sent direct to the hospital. The cause of the death was chronic Bright's disease. His remains were taken to Phelps for funeral services and interment. Dr. Brown was aged 76 years. At the breaking out of the Civil War he was engaged in the practice of

law at Turin, and when President Lincoln called for 300,000 volunteers in July, 1862, he left his practice and was appointed enrolling officer by Governor Morgan to raise Company B, Black River Artillery, which became Company K, Third Battalion, Fifth New York Heavy Artillery, commanded by Major G. F. Merriam. Dr. Brown was mustered into the service as first lieutenant at Sacketts Harbor on September 11, 1862, and left for Washington with the battalion. Upon the retirement of Captain Root, the deceased was made captain of the company and assigned with his company to Fort Snyder in the defense of Washington, D. C. Later he was transferred with the battalion to Fort C. F. Smith, Va., and afterward to Maryland Heights opposite Harper's Ferry, Va., in command of the 30-pound battery. At the raid of General Earley, Dr. Brown with Company K was in command of the left of the line of the rifle pit, behind the breastworks on Bolivar Heights from the Shenandoah to the Potomac river, and was actively engaged during the day. He held the enemy in check until the ordnance and commissary stores were removed from Harper's Ferry to Maryland Heights, when our forces withdrew from Bolivar to Maryland Heights, General Earley abandoning the siege after the fourth day.

Dr. Brown served nearly three years with credit and ability, having the confidence of his men, and those who survive will deeply regret to learn of his death.

Dr. Brown was united in marriage with Olive Richardson, of Martinsburg, who died several years ago. No children were born to them. Upon his return from the war he resumed the practice of his profession of law, and later studied medicine and located at Phelps, N. Y. He was a genial, companionable man, and highly esteemed.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Manual of Hygiene and Sanitation. By Seneca Egbert, M. D., Dean and Professor of Hygiene in the Medico-Chirurgical College, Philadelphia. New (5th) edition, thoroughly revised. 12mo, 508 pages, with 97 illustrations. Cloth, $2.25, net. Lea & Febiger, Philadelphia and New York, 1910.

Although this small book has 508 pages it is very compact, and contains a large amount of practical information. It takes up in brief the general principles of bacteriology and immunity. The atmosphere, air, methods of practical ventilation and heating; food, stimulants, beverages, personal and school hygiene, disinfection, military hygiene; vital statistics and examination of air, water, and food are taken up in successive chapters. Very few references to the original sources are given, but in general the main results of work of special investigators are emphasized.

The style is concise, and reading easy. The book should prove of value to students and also to practitioners; the latter will find many every-day questions clearly answered. THOMAS ORDWAY.

Diseases of the Stomach and Intestines. By Robert Coleman Kemp, M. D., Professor of Gastro-Intestinal Diseases, New York School of Clinical Medicine. Octavo of 766 pages, with 279 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6.00 net; half morocco, $7.50 net.

The frequency with which every practitioner of medicine is called upon to treat disorders of the gastro-intestinal tract accounts for the many excellent works on diseases of the stomach and intestines that have been placed before the medical profession. The volume before us is based upon the large experience of the author and he has written in a simple manner and his material is well chosen and of practical value.

The teaching along these lines in many of our medical colleges is meagre and rudimentary and not in keeping with the great advances made in recent years.

The chapters dealing with methods of examination and treatment are unusually clear and enter into all the minor details with great accuracy. The illustrations, which are mostly original, are excellent. The photographic illustrations in the description of modern methods of diagnosis are especially to be recommended.

The value of the book would have been enhanced if the author had more fully discussed some of the commoner gastric and intestinal affections of children. For instance there is no description of congenital pyloric stenosis. Cyclic vomiting in children is disposed of in half a page. Other instances might be mentioned.

The use of the Röntgen Ray in the diagnosis of gastro-intestinal disorders is of great importance and it is unfortunate that the author devotes less than half a page to its discussion.

An important omission is that of pancreatic diseases and in view of their importance this is to be regretted.

The book can he recommended to the general practitioner as one that is usable and practical in his every-day work.

The Treatment of Disease. A Manual of Practical Medicine. By Reynold Webb Wilcox, M. A., M. D., L. L. D., Professor of Medicine (retired) at the New York Post-Graduate Medical School and Hospital, etc., etc. Third Edition. Cloth, 1023 pages. Price, $7.50 net. Philadelphia: P. Blakiston's Sons & Co., 1911.

In the preface to this, the third edition of "The Treatment of Disease," Dr. Wilcox says: "While ætiology is important, pathology is interesting, and a sound basis for scientific medicine, and diagnosis is absolutely essential, it is from a thorough and broad knowledge of therapeutics in its larger sense that the practitioner will achieve his greatest success and win his most enduring reputation among his patients and the public at large. * * * With the practical needs of the physician always in view, this book has been written."

Dr. Wilcox has named his work "Treatment of Disease." He might very well, without being accused of being inaccurate, have called it

the "Common-Sense Treatment of Disease," for common-sense is what confronts the reader in every chapter. It looks him in the face from every page. While some attention is paid to ætiology, symptomatology, et cetera, the major portion of the work is devoted, as the name would imply, to treatment. In discussing each disease the author has carefully sifted the evidence and with most excellent judgment selected the most rational and most in repute among the better men in the profession, and what is most refreshing, credit is given in the text where credit is due.

In a work as extensive as this it would be not only difficult but unwise to discuss at length any particular part to the exclusion of the others, but it is impossible to refrain from commending the general arrangement as well as the happiness of the author's diction. It is a book that no practitioner can afford to be without. SPENCER L. DAWES.

A Text-Book of Pharmacology and Therapeutics; or the Action of Drugs in Health and Disease. By ARTHUR R. CUSHNY, M. A., M. D. F. R. S., Professor of Pharmacology in the University of London; Examiner in the Universities of London, Manchester, Oxford and Leeds; formerly Professor of Materia Medica and Therapeutics in the University of Michigan. Octavo, 744 pages, with 61 engravings. Cloth, $3.75 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This latest edition of Cushny's work on pharmacology and therapeutics is distinctly different from the majority of the so-called "new editions" in that it is not a reprint with a new title page, but is an actual revision and might almost be called a new work. Notable and most praiseworthy features are the diminished space allotted to minor and unimportant remedies, the dropping of many of them entirely, the introduction of much new matter and the consideration of drugs more as to their physical characters and less as to their chemical combinations.

Our later knowledge of digitalis, of adrenalin and some other drugs is very satisfactorily set forth and the conclusions arrived at seem to be most just. And so it is rather surprising that in rewriting the chapter on arsenic Cushny should base his statements regarding sodium cacodylate and similar arsenic preparations of an organic character on the incorrect and inaccurate dictum of Fraser rather than upon recent reliable and accepted pharmacological investigation.

It is a distinct pleasure to be able to recommend this book, not only to students but to everyone interested in pharmacology and therapeutics.

S. L. D.

Symptomatic and Regional Therapeutics. By George Howard Hoxie, M. D., Professor of Internal Medicine and Dean of the Clinical Department in the School of Medicine of the University of Kansas. Cloth, 499 pages, with 58 illustrations. Price, $4.00. New York: D. Appleton & Co., 1910.

The preface states that "The following pages contain the material collected for the course in general therapeutics recommended by the Committee on Curriculum of the American Medical Association—a recommendation adopted also by the Curriculum Committee of the Association of American Medical Colleges," which seems to be the most potent reason for its being, for while it cannot be denied that it contains much well written, readable and accurate matter, very few students, and the student is the one who is expected to buy it, will be willing to pay four dollars for a book in which he must search in various parts for information on some one subject, the arrangement being so faulty, and when he has found it note that it is so meagre in detail that the search has been hardly worth the while.

It is to be hoped that when another edition appears it will be rearranged and the subject matter doubled, at the same time remaining of as high a quality. S. L. D.

Surgery: Its Principles and Practice. In five volumes. By 66 eminent surgeons. Edited by W. W. Keen, M. D., LL. D., Hon. F. R. C. S., Eng. and Edin., Emeritus Professor of the Principles of Surgery and of Clinical Surgery, Jefferson Medical College, Phila. *Volume V.* Octavo of 1274 pages, with 550 illustrations, 45 in colors. Philadelphia and London: W. B. Saunders Company, 1909. Per volume: Cloth, $7.00 net; half morocco, $8.00 net.

This the fifth and final volume of the series is a very fit companion for the four excellent volumes that have preceded it. It is devoted for the most part to the consideration of various subjects not especially related to each other or to subjects treated in the preceding volume.

The first volume contains a most excellent presentation of the subject of the surgery of the vascular system by Matas, than whom no one is better qualified to write on this subject. This chapter alone occupies 351 pages of text and is one of the most elaborate chapters in the entire system. An exhaustive chapter "on the surgery of the female genito-urinary organs" by Montgomery follows, and while by no means as elaborate as many treatises on the subject, nevertheless contains all the essential facts.

Next comes an excellent chapter on "surgical technic," in which there is a concise but complete presentation of all that is best in this line. These three chapters occupy more than one-half of the volume, while the succeeding fourteen chapters are much more brief and of relatively less importance. "Litigation of arteries in continuity," "Operations on bones and joints," "Amputations," "Plastic or reconstructive surgery," and "Surgery of accidents," are all of them somewhat brief treatises, but contain the essential facts.

"Surgery of the Parathyroid Bodies" is the subject of a most interesting chapter by Charles Mayo, and is about the last word yet spoken on these interesting structures.

"The intra cranial surgery of the fifth and eighth nerves" presents the essential facts in a brief but comprehensive manner with excellent illustrations of the various operative procedures.

Hare has contributed an excellent chapter on "General anesthesia and anesthetics" and this is followed by a chapter on "local and subarachanoid anesthesia.' Other chapters toward the end of the volume are "the surgery of the infectious diseases"; "the use of the X Ray and radium in surgery"; "the legal relations of the surgeon"; "the laboratory as an aid to surgical technic and surgical diagnosis," and finally a brief but excellent chapter by Ochsner on "the surgical organization of a hospital."

This is indeed one of the most complete and satisfying presentations of the subject of surgery that has ever appeared in the English language. It is evident that all the contributors to this entire system have given of their best to this work and their efforts have been most ably supplemented by the most excellent work of the publishers, who have spared no pains in making the volumes most attractive both as pertains to illustrations and typography. A. W. E.

Dislocations and Joint-Fractures. By Frederic J. Cotton, A. M., M. D., First Assistant Surgeon to the Boston City Hospital; Assistant Professor of Clinical Surgery in Tuft's College Medical School, Boston. With 1,201 illustrations, 830 from drawings by the author. W. B. Saunders Company, Philadelphia and London, 1910.

It is scarcely possible to present a more forcible illustration of the advances being made in the department of surgery than does this book, in its treatment of the two subjects which it portrays in so clear and accurate a manner. The writer has presented a preface that is thoroughly charming to the busy practitioner—so exceedingly brief yet so exceedingly terse—and when one has gone over the book carefully he finds it so absolutely truthful. It has been my privilege to observe the development of this department of surgery from the early days of the writings of Frank Hamilton, and I am frank to say that no work since then has carried forward this anxious and responsible part of the general surgeon's duties in so broad, precise and clear terms as does this volume. The text is very clear, there is no confusion in the classification of symptoms, and no rubbish whatever. Every sentence has the stamp of originality, and the thoroughly candid manner in which the author has credited to other surgeons, and observers, the facts he has embodied in the work redounds to his conscientious authorship.

The charm and fascination of the entire book lies, in a large measure, in the splendid illustrations. Radiography has certainly been employed in a most effective manner. While Dr. Cotton has used illustrations from his own records he has most faithfully avoided a repetition of

plates, found in so many works on this subject, substituting instead the evidence of originality that will give his book an introduction to the profession so strong as to make it a text-book of great merit, as well as a book that will find its way into the library of every thoughtful surgeon. He has taken away the nightmare of distress that comes to the younger surgeon in the treatment of these formidable lesions, has given an impulse to the employment of new methods that must be heeded, and when heeded will bring a satisfaction and degree of success in the treatment of these cases that the past has not yet attained. One feels to congratulate the author, for he has been able to accomplish so much in rendering his associates the practical aid that this book will ultimately bring to them.

The work of the publishers is most excellent and adds to their already well established reputation for doing their publishing in so thorough a manner. A. V.

LARYNGOLOGY, RHINOLOGY AND OTOLOGY.

Edited by Clement F. Theisen, M. D.

Acute Thyroiditis (Thyreoditis Acuta).

W. Lublinski. *Wiener medicinische Wochenschrift, October* 15, 1910.

The writer criticizes a statement made by Goldberger that no case of true iodide thyroiditis has been reported.

Lublinski several years ago (*Deutsche Med. Wochenschrift, No.* 8, 1906), published a case. A woman aged 52 years, with syphilitic ulceration of the tonsils, was given, after the mercurial treatment, a five per cent. solution of iodide of potash. After taking this for four days she had an acute thyroiditis. Her thyroid before beginning the treatment had been perfectly normal. After stopping the iodide the swelling of the thyroid disappeared within a week. In order to prove that the iodide had caused this, the author put the patient on the same treatment again and the same thing happened.

Marothe, Sellei, and Gondurow have reported similar cases.

Cases of acute thyroiditis are not as rare as Goldberger believes.

The author has reported cases following acute angina. Kocher has classified such cases as metastatic.

It is well known, however, that an inflammation of the thyroid gland occurs with different diseases, such as septic fever, typhoid and pneumonia. In most of these cases suppuration occurred and in the pus, the pathogenic organisms of the primary disease were found, either alone or mixed with pus cocci.

The author has reported four cases of acute thyroiditis in women, following acute angina. This usually occurred on the fifth or sixth day after acute symptoms of the sore throat subsided, and was accompanied by another rise in temperature.

The author believes that the complication of angina with acute thyroiditis, is analogous to the rheumatic conditions complicating sore throat.

In this class of cases the development of abscesses in the thyroid has not been observed.

Diseases of the Accessory Sinuses Causing Ocular Symptoms.

Waxham. *Laryngoscope, February,* 1910.

Tumors of the accessory sinuses are of more common occurrence than is usually credited. Even benign growths as well as inflammatory diseases may give rise to the most alarming eye symptoms. They may lead to blindness or even death if not recognized and properly treated.

While diseases of the nasal sinuses not infrequently give rise to serious ocular symptoms, yet the relation between them has not been properly recognized until the last few years. In the Ophthalmic Year Book for 1907 no mention is made of sinus disease in connection with the etiology of certain ocular lesions, excepting a very simple reference to a case of retro-bulbar neuritis, associated with empyema of the frontal and ethmoidal sinuses reported by Zentmeyer. Since then many cases have been reported.

The most common complication of tumors of the accessory sinuses is that pertaining to the eye, especially when the frontal or ethmoidal cells are involved. In case of forward protrusion of one eye we should at once suspect the presence of pus or a tumor in the posterior ethmoidal cells, and when these cells are diseased the sphenoidal cells are as a rule also involved. If the eyeball is pushed outward as well as forward, either the anterior ethmoidal cells or the frontal sinus or both may be the seat of the disease. These sinuses, however, may be diseased without any disturbance of the normal axis of the eye.

When there is severe pressure as from confined pus in the anterior ethmoidal cells, a small hard tumor appears at the inner angle of the eye, which gradually increases in size and may in time become fluctuating. When the frontal sinus is the seat of pressure the small tumor or swelling appears at the inner and upper angle of the eye. It must be remembered that pus is not always seen in the nasal cavities when the sinuses are involved, from the fact that their outlets may be closed, and hence the difficulty of diagnosis.

Hajek and Onodi have observed that often the posterior ethmoidal cells are in relation to the optic nerve, in which instances the separating wall is always thin, also the connection of the venæ ethmoidalis with the opthalmic vein is very important.

Birch-Hirshfeld believes that affections of the optic nerve arising from the posterior sinuses are not of rare occurrence. Usually, he states, only one nerve is affected, but bilateral cases have been reported. Careful determination of the visual field reveals central scotoma in the majority of cases, which is relative for red and green in moderate cases, but absolute in the more severe. Narrowing of the outer limits of the visual

field has also been observed. Optic neuritis is frequently present. The shrinking of the field follows no set rule. Sometimes it is in the periphery and sometimes in the central part. Birch-Hirshfeld's conclusions are that inflammatory diseases or tumors in the posterior ethmoidal cells lead early to severe damage to the optic nerve. This damage is first seen as a central scotoma, the recognition of which is very important as the diagnosis of disease of the posterior cavities is often difficult.

Differential diagnosis from toxic amolyopia is easily made from the fact that it is monocular, acute in development and has a tendency to progress rapidly.

According to Posey the inflammation of the frontal cells gives rise most frequently to intracranial lesions, the infection occurring as a result of perforation of the posterior wall of the sinus, with consecutive abscess of the frontal lobe. The infection in ethmoiditis occurs through the lamina cribrosa and is rapid, meningitis or frontal abscess resulting. Meningitis and thrombosis may also be set up by sphenoiditis and less frequently by disease of the antrum.

Arnold Knapp reports two cases of optic neuritis, one bilateral, due to disease of the posterior ethmoidal cells.

Risley reports two cases of optic neuritis, with recovery after drainage of the frontal and other sinuses.

Fish cites 36 cases of optic neuritis, of which 26 were coincident with sinus disease. It should be noted that optic neuritis may not only be caused by disease of the accessory sinuses, but may also be produced by intranasal operations, as when the optic nerve is injured.

In conclusion the author states that when the sinuses are the seat of disease the rhinological examination may be negative, and the diagnosis must then be based upon the presence of central scotoma and other ocular symptoms.

The Nasal Reflex Neuroses (Zur Lehre von der nasalen Reflexneurosen).

Gustav Killian. *Deutsche medicinische Wochenschrift, No.* 40, 1910.

The nasal reflex neuroses originate as the result of an excessive sensitiveness of the nasal mucous membrane, particularly with such forms of irritation causing tickling. Even the slightest local, regionary or remote reflexes may bring this about, and for this reason reflex neuroses may easily develop.

For the clinical demonstration of the subject, it is important to divide the neuroses into three classes, ethmoidal, sphenoidal and olfactory. A therapy based on such a division may be very effective, and this is particularly true of the local therapy. Leaving out of account the removal of nasal stenoses and chronic inflammatory processes of various kinds, the most rational treatment is first of all to investigate parts of the nose that are hyperesthetic, because the reflexes start in such regions. It is also of great importance to determine what variety of nasal reflex neurosis exists, and it is not uncommon to have mixed forms.

Testing the hyperesthesia of the nasal mucous membrane will show us whether our treatment will have to be applied anteriorly or posteriorly or to both regions. For a temporary quieting of the nerve endings we may use cocaine, and for superficial destruction, caustic agents, such as trichloracetic acid and chromic acid. For deeper cauterization, electrolysis and the cautery may be used. Better results will follow extirpations of the hyperesthetic areas of mucous membrane, which is common particularly when chronic hypertrophies of the inferior turbinate must be removed at the same time.

In ethmoidal neuroses, the writer has taken special care to remove irritable zones in the anterior end of the inferior turbinate. In sphenoidal neuroses, the hyperesthetic region in the middle and posterior end (high up) of the inferior turbinate should be removed.

For the temporary cure of ethmoidal neuroses, the writer several years ago recommended cauterizing the "four points" with trichloracetic acid.

In old and stubborn cases of ethmoidal neuroses, the unilateral and bilateral resection of the ethmoid nerve, by way of the orbital cavity, has been recently and successfully first performed by Eugen Jonge. Neumeier and Bloss followed him, and the author has also had a successful case.

The author has recently, instead of performing this operation under general anesthesia, been doing an intra-nasal resection with cocaine and adrenalin. The septal branch is easily reached, and the lateral branches, slightly above the anterior end of the inferior turbinate, are also accessible. The septal branch of the spheno-palatine nerve can be reached above the upper edge of the choana. The branches that extend to the inferior turbinate posteriorly, can be reached with a properly curved knife. Olfactory neuroses cannot be treated in this way. Caustics are contra-indicated, but milder agents, having a slighter destructive action, may be of use.

Concerning Foreign Bodies in the Oesophagus (*Ueber Fremdkörper in der Speiseröhre*).

PERNICE. *Deutsche medicinische Wochenschrift, September* 15, 1910.

According to Kalozeropulos, foreign bodies in the œsophagus in about forty per cent. of the cases are tooth plates. The question of extraction, whether by œsophagotomy or gastrotomy, when such foreign bodies are impacted in the lower part of the œsophagus, is important and has not been positively determined.

In regard to the diagnosis the author states that the fact that a foreign body could or could not be swallowed should not be considered. Even large foreign bodies may remain in the œsophagus for a long time. Eitel has reported a case in which a tooth plate remained impacted in the œsophagus for six and a half years, and Bull mentions a case in which a similar foreign body was in the œsphagus for a year and a half.

In every case in which the presence of a swallowed plate is suspected, either an examination with a probe should be made, or by œsophagoscopy,

and the examination should be made as soon as possible. Of forty cases of foreign body in the œsophagus, collected by Naumann, seven terminated fatally, four of the fatal cases being the result of impacted tooth plates. It is particularly important that sharp or angular foreign bodies should be removed as soon as possible. A radiograph is of the greatest assistance in locating the foreign body.

The prognosis depends upon the nature of the foreign body, the length of time it has been in the œsophagus, and its location.

Foreign bodies present in the œsophagus for a long time may cause swelling, pressure, ulceration, enlargement of the glands, infactions or erosions of the blood vessels. Paraœsophageal abscesses and mediastinitis have been reported. Neuhaus has reported a case of fatal hemorrhage through the erosion of the carotid.

Immediately after the swallowing of a foreign body attempts at removal with or without the aid of œsophagoscopy may be made. Should such attempts fail, œsophagotomy should be performed as soon as possible. If the foreign body is situated deep down in the œsophagus, so that it cannot be felt with the finger through the œsophagotomy wound, the method of procedure must be changed. In such cases Dobbertis recommends the opening of the œsophagus through the posterior mediastinum. In the case of a tooth plate a gastrotomy may have to be performed and the foreign body removed in this way.

The Nasal Phenomena of Neurasthenia.

GRAYSON. *Laryngoscope, December,* 1910.

The author states that in a very large proportion of neurasthenics an appreciable and in many instances a severe degree of intra-nasal neurovascular derangement occurs possessing not only pathologic but also with reference to the neurasthenia itself very decided therapeutic importance.

Recent neurology draws a rather sharp line between inherited or essential neurasthenia and that which is acquired or more or less voluntarily assumed and which is, indeed, scarcely more than symptomatic of an auto-intoxication which exerts its pernicious effects upon the higher nerve centers. In the first class there is a congenital lack of neuronic energy; in the second a willful waste or poisoning of it. To the rhinologist there is little practical difference between the two. In both, the nasal phenomena are largely the same and are so unmistakably of nervous origin that they should never fail of recognition. In this connection, however, is it not almost as surprising as it is regrettable that, with the single exception perhaps of hay-fever, so few general physicians and even neurologists recognize the distinction between the ordinary catarrhal inflammations of the nasal mucous membrane and its disturbances of neuro-vascular nature, a distinction which the rhinologist has so often drawn and so many times emphasized? Similar as they may be symptomatically, we are fully aware of their wide pathogenetic and pathologic differences.

The writer believes that a broad line of distinction should be drawn between hay-fever patients who suffer from a mild degree of hay-fever not only during the regular season but at any period, and often throughout the year, and the other large class, the members of which display a hyper-sensibility to irritants of external origin. Whatever the disturbing factor may be it is quite obvious that its action instead of being peripheral as in the case of hay-fever may be central, particularly as certain of the evidences of peripheral irritation that are present in rhinitis hyperesthetica are conspicuously mild or absent in the nose of the neurasthenic.

At first there are transient hyperemias and moderate turbinate engorgments accompanied by dull headaches, neuralgias and even now and then by a sort of pseudo-asthma. Later, the erterio-venous balance is more severally disarranged and for longer periods, serous extravasation occurs and the paroxysmal functional disturbance of the beginning ends in a persistent vascular paresis with all that this brings in its train.

In regard to the local measures of relief, the author thinks that cauterization alone is of scarcely any value, but if the serum distended turbinates are first drained by free scarification or by multiple puncture, and this is followed by the application of the chromic acid crystal or the galvano-cautery, a very prompt, decided and prolonged impression will be made upon the inert tissues.

Internally the glycero-phosphates of lime and soda and strychnine are of great value.

Status Thymo-Lymphaticus and Its Relation to Sudden Death.

G. H. Cocks. *Laryngoscope, July,* 1910.

Adults and children with the condition known as status thymo-lymphaticus are especially liable to die from infectious disease, and are subject to death from shock and death from anesthesia.

The term status thymo-lymphaticus, or status lymphaticus, is applied to people who present hyperplasia of the thymus gland, lymph-nodes, tonsils, lymphatic elements of the spleen and intestinal tract, and lymphoid marrow of the long bones. Associated with this condition are often found hypoplasia of the heart and arteries, evidences of infantilism, signs of old or recent rickets, abnormalities of the thyroid gland, idiopathic epilepsy (Ohlmacher), acromegalia, Addison's disease and myxedema. There are many grades of status lymphaticus from cases showing simple hyperplasia of the thymus to those exhibiting extreme enlargement of this gland with pronounced hyperplasia of all the lymphatic elements of the body.

There is considerable doubt that status thymicus and status lymphaticus are identical conditions. Adami and Nicholls state that they personally regard the thymus as a lymphatic organ. According to Hart, the newer investigations of Wiesel and Hedinger, tend to prove that the two are essentially different phenomena. In pure status lymphaticus there is

present a hypoplasia of the chromaffin system, especially in the adrenals, analogous to that found in Addison's disease. In pure thymus hyperplasia, on the contrary, the chromaffin system is always well developed.

The author in his paper speaks of status thymicus and status lymphaticus as identical, using the term status lymphaticus or status thymolymphaticus synonymously.

The question as to the normal weight of the thymus at different ages is a much mooted one. Hammar believes that the thymus undergoes rapid involution in both acute and chronic illness. In death from disease, he claims that the organ is often reduced to one-twentieth or more of its normal weight. In support of this view Hammar quotes Johnson, who reports that four days' starvation of dogs diminishes the thymus to two-thirds its normal weight; while thirty days chronic underfeeding brings about a thymus weight of one one-hundredth of the normal.

According to von Sury and Friedleben the greatest weight of the thymus (27g.) is attained at the end of the second year; while Hammar's statistics place the maximum weight (37g.) between the eleventh and fifteenth years. The latter view, which is more probably correct, is substantiated according to Hammar, by observations conducted by Söderlund and Backman. It was found that the height of the thymus curve was reached in dogs at the end of the fourth month of life, at the time when spermatogenesis begins. This period in dogs corresponds to the period of puberty in men (eleven to fifteen years).

The writer mentions the fact that recently there have been a large number of autopsies in New York at the city morgue, upon workmen who have died of Caisson disease. In many of these status lymphaticus was present. It is probable that status lymphaticus increases the liability to sudden death in compressed-air workers.

In considering the relation of status lymphaticus to death from anesthesia both general and local, the writer gives a list of the recorded cases, 42 under general anesthesia, and 3 under local.

Of the 42 cases dying under general anesthesia, the anesthetic used was not given by the writer in 3, ether was used in 13, chloroform in 19, a mixture of chloroform and ether in 5, and nitrous oxide gas in 2 doubtful cases.

The following cases died under local anesthesia: A case of small cyst of neck after local injection of 0.075 gm. Tropocaine. Second case removal of tonsils in an adult. Cocaine anesthesia was followed almost at once by syncope and death. Autopsy revealed a thymus weighing eighteen grams. The third case was that of a woman aged thirty-four years. Schleich's infiltration anesthesia was used for the removal of an exophthalmic goitre.

Autopsy: Status lymphaticus with enormous hyperplasia of the entire lymphatic apparatus.

The writer discusses the three theories of death, the theory of mechanical compression, Paltauf's theory and the theory of hyperthymization.

His conclusions are as follows:

1. The thymus gland is probably an epithelial organ with an internal secretion.

2. The diagnosis of status lymphaticus as a cause of death is made too frequently. Hammar's statistics show that the thymus gland is normally much larger than is generally supposed.

3. Mechanical tracheo-stenosis undoubtedly exists as a cause of death in rare instances.

4. The usual cause of death in status lymphaticus is probably a "hyperthymization" of the organism, which renders it peculiarly susceptible to harmful external influences, such as shock, anesthetics and infectious disease.

5. The diagnosis of status lymphaticus can undoubtedly be made intra vitam. The X-ray offers the most certain aand reliable means of determining the presence or absence of an enlarged thymus gland.

6. If status lymphaticus exists, chloroform is the most dangerous anesthetic.

PATHOLOGY AND BACTERIOLOGY

Edited by Thomas Ordway, M. D. and Harry Bernstein, M. D.

The Pathology of Acute Articular Rheumatism (Zur Pathologie des akuten Gelenk Rheumatismus).

Ernst Mosler and Bruno Valentin. *Berliner klinische Wochenschrift, 26 September,* 1910.

This paper consists of the analysis of all cases of acute articular rheumatism excluding mono-arthitides, gout, gonorrhœa, etc., which were treated from April, 1909, to March, 1910, on the authors' service.

The total number discharged and died was 2,554 cases, of which 142 were considered as acute articular rheumatism; this made up a little over five per cent. of all patients treated. Males and females were about equally affected. The largest number of cases was between the ages from sixteen to twenty years, seven cases between the years of fifty-one to sixty, and one case over seventy years old. In general the onset was sudden and the majority of the cases were in the spring, April. The writers suggest that this may be due to the lack of care from the rapid cooling off after exercising. There is no distinct relation to humidity.

In eighty-two of the initial cases sixty had relapses. This shows the necessity for the doctor to warn patients in their first attack. The average duration of fever was fifteen days and the stay in the hospital 53.8 days.

Concerning complications, the heart was most frequently affected, that is, in sixty-one of the 142 cases, or forty-two per cent., sixty showed signs of endocarditis, and fifteen exudative pericarditis. Other complications noted in order of their frequency were angina, bronchitis, acute parenchymatous nephritis, conjunctivitis, joint suppuration, phlebitis, sta-

phylococcus infection, and multiple abscesses, erythema nodosum (two cases) erythema rheumatica (one case), otitis media, lymphangitis, peritonitis (one case).

The predisposing factors in order of their frequency appeared to be gonorrhœa (nine cases), acute inflammatory flat foot, erysipelas, pulmonary tuberculosis and lead colic.

Among the cardiac complications the mitral valve was chiefly affected. This was often associated with pericarditis and pleuritis. Mention is made of the so-called "polyserositis rheumatica," in which the following serous surfaces were affected: endocardium, pericardium, peritoneum, and joint surfaces.

(Note.—This condition is described in detail by one of the writers in the *Berl. Klin. Wochensch,* 1910, number 7, under the title Ueber Rheumatische Entzundung der Serosen Haute).

It is interesting to note that angina is relatively rare considering the supposed causal relation of this to acute articular rheumatism. In no cases could organisms be cultivated from the blood or pleural exudate, with the exception of one case which showed staphylococcus septicemia.

Prognosis—83.1 per cent. of these were cured, 18.4 per cent. were improved, 1.4 per cent. discharged unrelieved, and 2.1 per cent. died. In recovered cases, limitation of joint function and mitral disease was common; aortic disease, rare. Of the three fatal cases, two were of myocarditis, one of polyserositis, including peritonitis. The three fatal cases showed multiple abscesses of the brain from malignant endocarditis. Blood cultures, however, were sterile.

In spite of complications, however, the prognosis is, in general, favorable. The cases of parenchymatous nephritis recovered entirely.

Experiments on Cell Proliferation and Metaplasia.

Charles P. White. *Journal of Pathology and Bacteriology, April,* 1910, *Vol. XIV, No.* 4.

The proliferation of epithelial cells and infiltration of subjacent tissues is characteristic of cancer. The author judges that there are normal influences which control the proliferation and position of cells. Since cholosterin is frequently seen in tumors, the idea is suggested that chemical substances take part in the regulating influences. Therefore, fatty acids have been injected in tissues for the purpose of study. The material used was pure oleic acid sterilized at 150 degrees. The injection was made in the external ear of rabbits and the mammary glands of guinea pigs. Control injections of olive oil and liquid paraffin were made with negative results. After the injection of these substances there was hyperæmia with rapid absorption.

The injection of oleic acid caused an aseptic inflammation with a formation of an abscess, which in cases had persisted for several months. In ten days the abscess cavity was lined with epithelium and was filled with horny cells. Mitotic cells also made their appearance. The con-

tents of the abscess at first were the acid injected, polymorphonuclear leucocytes, and eosinophiles. These rapidly disintegrated; then came large cells of polygonal shape with small nuclei, these were phagocytic, endothelial cells. The abscess had several layers of these cells, some of which became giant cells. The acid was ultimately converted into soaps.

The endothelial cells present contained many anisotropic globules which were probably a combination of cholesterin and fatty acid. When the abscess cavity came into contact with epithelium of any part, whether it was epidermis, hair follicles, or sebaceous glands, the ultimate result was the same. The epithelium proliferated. Keratonized cells were thrown off and the cavity was lined with squamous epithelium and filled with horny cells. These cavities resembled an epidermoid cyst. In cases, rudimentary hair follicles were seen and when oleic acid was injected subcutaneously into the back of a mouse, the resulting processes simulated a dermoid cyst.

The margin between the epithelial lining and the subjacent tissues was usually sharp, but the under surface of the epithelium above the abscess, became irregular as a result of proliferation; then when the cutis and subcutaneous tissues began to show signs of inflammation there was a proliferation of the hair follicles and the sebaceous epithelium. Eventually, pearls were formed. The infiltration of the abscess was most marked when the oleic acid was saturated with carbon dioxide. Moreover, groups of epithelial cells could be seen in the granulation tissue.

When the mammary gland of the guinea pig was injected with oleic acid, the abscess was lined with squamous epithelium derived on one side from hair follicles, and on the other from mammary acini, or ducts. When the duct became involved in the abscess, subjacent to it, its epithelium proliferated and became squamous.

Fischer observed the same result with the injection of Scharlach R and Sudan III dissolved in olive oil. He claims that the aniline dyes exert a chemotactic influence on epithelium. The author disagrees; maintaining that there is no growing down of epithelium to the abscess cavity. The epithelium shows a normal tendency to line any free surface, nor is there anything suggestive about the action of oleic acid save that it forms a chronic irritant. Turpentine produced the same results. Olive oil and paraffin, however, did not, as they were absorbed with great rapidity.

Friedlander described an ankle joint lined with epithelium which had grown in from epidermis along a tubercular sinus. The rapidity of proliferation of epithelial cells seen in the abscess formed by oleic acid is due to the aseptic condition. Oleic acid saturated with carbon dioxide showed an irregular epithelial proliferation in acini and duct with formation of papillary growths. The author does not attempt to explain the proliferating tendency of the epithelium which comes in contact with the abscess experimentally produced. He assumes that there is diminution of restraining influences and that probably the chemical equilibrium has been upset.

Researches upon the Oriental Boil (Recherches sur le Bouton d' Orient), Cultures, Reproduction, Experimental Immunization.

NICOLLE AND MANCEAUX. *Annales de la Institut Pasteur, September 25, 1910, Vol. XXIV, No. 9.*

The writers, believe that the different varieties of local lesions known by the name of "Tropical Ulcer, Dehli Boil," etc., etc., are identical; that the etiological agents are the same, morphologically. They have succeeded in obtaining cultures which develop rapidly at twenty-two degrees centigrade, and have been transplanted indefinitely. For the casual agent of Kala-azar they used the term "Leischmania Infantum" and for that of the local lesions, above mentioned, the term "Leischmania Tropica"; the latter is pathogenic for the lower monkeys and dogs, and infection has been transferred from one to another. Typical lesions are produced and the inoculation period varies from 116 to 166 days. The local experimental lesions resemble natural lesions occurring in man.

The method of inoculation is important. Repeated attempts to infect by intraperitoneal, or by subcutaneous infection (in the trunk region) have failed.

[NOTE.—I obtained similar results in inoculating a monkey subcutaneously in the back with fresh material from a case of Delhi Boil T. O.]

In the monkey the most favorable site for inoculation is scarification of the nose, or in the vicinity of the eyebrow.

As regards immunity, the writers find that a single attack gives immunity to experimental inoculation if the primary lesion is totally healed, but that there is increase of susceptibility, with shortening of the incubation period, if the primary lesion is not healed. Intraperitoneal inoculation does not give immunity. Healed infection by Leischmania Infantum (Kala-azar) protects the dog, in subsequent inoculation, against Leischmania Tropica. On the other hand an attack of Leischmania Tropical gives the animal a certain degree, but not complete immunity to Kala-azar.

For positive results in cultures, young lesions should be used. They found that virus was inactive in the goat, cow, sheep, white rat, horse, and ass.

Nicolle and Manceaux believe that there is a great analogy between Leischmania Tropica and Leischmania Infantum, as regards the morphology and pathogenic action in man and dog, but they do not think that the two can be regarded as identical until further studies have been made concerning the intermediate host, which they have reason to suspect is the dog.

[A more recent writer (*Gabbi, Reforma Medica,* Naples, November 21, 1910), in his study of Kala-azar, does not agree with Nicolle and Manceaux, but thinks the bedbug is probably the intermediate host.]

ALBANY
MEDICAL ANNALS

Original Communications

EXPERIENCES WITH ARSENO-BENZOL.

Read at the 104th Annual Meeting of the Medical Society of the County of Rensselaer, held at Troy, N. Y., December 15, 1910.

By WILLIAM S. GOTTHEIL, M. D.,

New York City.

I desire to put on record a series of cases of syphilis treated with "606" in my service at the City Hospital. The drug itself I owe to the courtesy of Dr. Flexner; and Dr. Noguchi of the Rockefeller Institute did many of the injections and most of the Wasserman tests. The remainder were done by the assistant visiting on my service, Dr. Satenstein, and the Sage Institute of Pathology connected with the hospital. I shall not refer to chemical, theoretical, or historical considerations about the drug, but shall confine myself to recounting my own experiences. These, I may say at the start, whilst in general satisfactory, have been in no way marvellous from the syphilographers view-point. I must also premise that everything herein recorded refers to immediate results alone; there has not been time to form any opinion as to permanence of effect; and it must long still remain entirely uncertain whether that most devoutly to be wished for result, the complete and permanent cure of the luetic infection, can be attained by the new method or not.

The Cases.

Up to date I have given thirty-one injections in twenty-nine cases, two of them receiving it twice. A few of these cases are useless for our purposes, the patients for various reasons having disappeared from observation immediately after the injection, or the treatment having been too recently administered. There remain twenty-five cases which have been observed from a minimum time of one week in one instance, to three months. These

were all hospital cases, under control and close observation; and they were watched and the results noted not only by myself, but by the assistant visiting, the house staff, the experienced permanent nurses in the wards, and various colleagues.

The patients themselves were of the types usual in a large public hospital, mostly rough and careless individuals of the lower classes, not sensitive to pain, and attracted to the hospital by the newspaper publicity that the new remedy has unfortunately gotten prematurely, and filled with the hope of getting rid of their infection at once and permanently. Their disease manifestations embraced the ordinary types, from the initial lesion to the late gumma, and a few of the unusual ones also. Most of them, of course, shewed more than one type of lesion; so that the twenty-five cases included four chancres, sixteen general secondary eruptions, eight cases of mucous patches, two cases of iritis, four cases of condylomata, six cases of tertiary ulceration of the skin and mucosa, and four gummata.

The Injections.

In the first sixteen injections the emulsion was employed, injected into the muscles of the subscapular region. In the remainder the clear solution was used, three cases receiving the medication in the two buttocks, divided into two equal doses, and the remaining six being injected in the right quadratus lumborum muscle. Almost without exception the injections were very painful. Even our very insensitive patients, on whom we make biopsies without local anaesthesia and often without complaint, had to have morphia hypodermically at once; and now we give it in every case immediately after administering the arseno-benzol. Even with its aid there is always one or more pain-filled and sleepless nights. The one or two cases that did not complain loudly afterwards acknowledged the pain and insomnia.

At the present time we are using the clear solution and the quadratus lumborum route exclusively. The emulsion made after the method of Wechselman, and injected into the deep muscles below or between the shoulder blades gave us in almost every case a large persistent induration. In many instances it was the size of an orange; and in five cases it gave the patients so much trouble that interference became necessary. In about six weeks after the injection incision and drainage had to be done; there was always a small amount of arsenic in the fluid center of the

tumors; but the most striking change was in their thick walls. The subcutis and muscle were in a state of dry necrosis, deep black in color, and entirely insensitive. In none of these cases that are still under observation has the process of slough extrusion yet ended; and it is a question whether the extensive tissue destruction by the arsenic has not to some extent interfered with the absorption and activity of the drug.

The gluteal site was rejected after trial on three cases. There was intense discomfort occasioned by having both glutei occupied by large tense, tender infiltrations; the patients had to lie on their abdomens in bed, and could not sit down at all. In all these three cases the clear solution was used, and the infiltrations did not require subsequent interference.

The quadratus lumborum site seems to be distinctly the best. In some of the six cases where we have used it a large tense mass extending down to the front of the abdomen was formed; in one of these the skin over the tumor became dusky red, and it seemed as if something would have to be done; but it retrogressed in the course of three weeks, like the others. Of course the occurrence of necrosis like that observed with the emulsion in the subscapular injections would be a serious matter in the lumar site, so near the kidneys and the abdominal organs; but we have not observed this necrosis in the nine cases in which the clear solution was used. The pain was about the same which ever method was employed.

The dosage has been practically uniform, 0.6 for men, and 0.5 for women.

Renal Effects.

In not less than ten out of the twenty-five cases there occurred after the injections distinct symptoms of renal irritation in varying degree. This was shown by the presence of red blood cells in the urine usually appearing the third day after the injection, but in four cases not seen until the seventh to the fourteenth day. In three cases this was merely temporary, the abnormal find disappearing in from two to twelve days; and in another case, in which albumin was also present, the same occurred. Three cases, which left the hospital shortly after their injection, still had red blood cells when last seen. In the three remaining cases hyaline and granular casts appeared later, and persisted up to the time of discharge, which in one case was two months afterwards. Every one of these injected cases had a negative urine before the medi-

cation was administered, since it was not deemed proper to inject it where there were any renal changes, and the patients were kept under observation for a few days before it was given. That the use of the emulsion cannot be blamed for this by-effect is shown by the fact that four of these ten renal cases occurred after the injection of the clear solution into the quadratus lumborum site.

Therapeutic Action.

Since my observation of the therapeutic effects of the new remedy differ to some extent from the unreservedly laudatory and almost hysterical praise with which it has been received, it will be well to intercalate here the histories of the cases from which my conclusions are drawn. I submit the following cases:

Case No. 1. William H., 26. (Dr. Fuller's service.) *History:* Chancre ten months ago, self treated; lasted one month; eruption nine months ago, no treatment. Throat trouble at the same time. Admitted to Dr. Fordyce's service April 10, 1910; one hg. injection, no improvement. About the middle of June, injection 606, 0.3, Noguchi. Two days later improvement in skin eruption set in, and in two weeks body was clear. Throat and mouth trouble had only improved, however, when he left the hospital in the middle of June. By the middle of July, moist papules of scrotum and edge of prepuce; throat and lips very sore again. Temperature, normal; urine, negative. Readmitted, City Hospital, Sept. 25, 1910.

Status Praesens: Extensive mucous patches of soft palate and pharynx; moist papules of scrotum and prepuce.

Diagnosis: Secondary syphilitic mucous patches of velum and pharynx; scrotal and preputial moist papules.

Sept. 30. Wasserman, Noguchi, $\frac{4}{+}$.

Oct. 8. Wasserman, Noguchi, $\frac{3}{+}$. *Injection*, Noguchi, 606. 0.6, emulsion, subscapular. No pain, but could not sleep.

Oct. 10. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Oct. 15. Moist papules of prepuce and scrotum gone; those in mouth still present, and little changed.

Oct. 21. Both pillars, tonsils, free border of soft palate, and uvula, again covered with mucous patches.

Oct. 24. Extension of the mucous patches onto the anterior faucial columns.

Oct. 26. Wasserman, Noguchi, $\frac{\frac{1}{2}}{+}$.

Oct. 28. No change.

Oct. 30. Mucous patches spreading on tip and sides of the uvula.

Nov. 4. First signs of improvement in throat.

Nov. 7. Continued improvement; patches still present.

Nov. 8. Went out.

Nov. 20. Reported at office for examination. Has been drinking very hard; is alcoholic now; lost his voice last week. General condition bad, very thin; condition as to syphilis good. Marked general adenopathy. Tender, egg-sized, non-fluctuating mass at site of injection. Throat reddened, but all patches gone.

Resumé. Chancre, Dec., 1909, eruption, no treatment. Received 0.3 606 in June, having an exanthem and pharyngeal mucous patches. Disappearance of skin eruption in two weeks; mucous patches improved only. By middle of July, bad mucous patches of throat again, with moist papules of scrotum and prepuce. Wasserman strongly positive. Oct. 6, injection, 0.6 606, Noguchi, subscapular. Disappearance of moist papules of scrotum and penis in six days; mouth lesions unchanged. In two weeks, extension of the mouth patches; they got worse till the fourth week, when steady but slow improvement set in. In six weeks, in spite of disadvantageous circumstances, the oral mucous patches had disappeared.

Conclusions: Unsatisfactory results from the 0.3 dose; relapse and extension of lesions in throat in two weeks from 0.6; improvement in four weeks, disappearance in six weeks. Results slower than from hg.

Remarks: Result does not compare favorably with hg. treatment as regards length of time required for healing of lesions, relapse under treatment, etc. The complete disappearance of the lesions, however, after they finally began to improve, and under circumstances the reverse of favorable, is noteworthy.

Case No. 2. Alfred J., 20, colored. *History:* Penile chancre three months ago; took two months to heal. Eruption two weeks after chancre appeared; no medication. Admitted, City Hospital, Oct. 10, 1910.

Status Praesens: General grouped miliary and pustular eruption over whole body, papulo-squamous on legs. General adenopathy. Indurated scar at base of penis (chancre site). Wasserman, Noguchi, $\frac{2}{+}$.

Diagnosis: General miliary-pustular syphiloderm.

Treatment and Course:

Oct. 11. Injection 0.6 606, Noguchi, subscapular, emulsion. Very painful; could not sleep; morphine.

Oct. 12. Legs appear somewhat better. Urine negative; highest temperature, 102.2.

Oct. 13. Complains much of pain at injection site; could not sleep at all. Pustules are drying up in places; but new papules are appearing scattered among the old eruption.

Oct. 15. Injection pain gone; feels more comfortable. Lesions flatter, but no marked change. Noguchi, Wasserman, $\frac{2}{+}$.

Oct. 17. All the older lesions show signs of slow retrogression; they are drying up and becoming a little scaly. Considerable number of new papulo-pustular lesions on left flank. Injection site markedly indurated, but not very tender.

Oct. 21. Most of the old lesions have disappeared, leaving slight pigmented atrophies behind. New lesions are scattered all through the

old eruption; on the upper part of the back, especially there are a large number of them. Injection site is still indurated.

Oct. 24. No change.

Oct. 26. Wasserman, Noguchi, $\frac{1}{+}$.

Oct. 31. Extensive new eruption of papulo-pustular lesions all over body. Throat is sore: specific angina, mucous patch of left posterior tonsillar pillar. Feels much worse than he did a week ago and looks badly.

Nov. 4. Still feels very badly; much pain at night; throat unchanged.

Nov. 5. Wasserman, Noguchi, $\frac{\frac{1}{2}}{+}$.

Nov. 7. Feels no better; bad and continuous cephalalgia; throat feels a little better; mucous patches as before. New skin lesions of the same character are still appearing.

Nov. 9. Patient complains of increased headache, and calls attention to a large increase in the number of new skin lesions all over his body, and especially on his neck, legs, and face, and extending onto his scalp.

Nov. 11. Feels a little better, but points out new lesions (since last examination), on face, neck, and legs. Injection 0.5 606, Satenstein, clear solution, quadratus lumborum. Great pain; morphine at once.

Nov. 14. Moderately marked tenderness at injection site; little external swelling. Patient himself says that he has no choice as to injection site; they were equally painful. Temperature was 103 after injection, 101½ next day, and now is 100.8. Papules and pustules have increased in size; throat is better, diffuse angina only present. New fissured papules at angles of mouth. Feels better generally.

Nov. 18. Side still tender; swelling yet visible. Eruption has improved, but more new lesions have appeared. Patient still has a temperature up to 102, pulse, 120; is anorexic; sleeps badly; looks badly; has much headache at night. Physical examination negative; blood normal; red blood cells in urine.

Nov. 21. Some retrogression of lesions all over body; few new ones. Pain in left knee joint, some swelling, and a small amount of fluid. Widal negative. Temperature remittent up to 102 daily; pulse over 100; red blood cells in urine.

Nov. 25. No new lesions; old ones retrogressing; distinct synovitis of left knee. Temperature now normal. Side at injection site still tender. Red blood cells in urine.

Nov. 26. Patient went out.

Resumé: Infection July, 1910; general miliary and pustular syphiloderm; adenopathy; injection Oct. 11, Noguchi, emulsion subscapular, 0.6 606. Lastingly painful. No result in one month. New skin lesions appeared continuously; new mucous patches; cephalalgia very marked. Second injection, 0.8, 606, Satenstein, clear solution, quadratus lumborum. Nov. 11. Just as painful as the first. No cessation in appearance of symptoms on skin or of subjective signs. Remittent fever. In ten days after last injection, development of synovitis of left knee joint. Finally, seven weeks after first injection, and three weeks after the

second, patient left the hospital with skin eruption improved, synovitis present, and red blood cells in urine.

Conclusion: Unsuccessful, in spite of two injections.

Remarks: Malignant type of general eruption; markedly renal irritation after second injection. Treatment seemed to have little or no effect on the symptoms.

Addendum: Dec. 20. It is reported to me from the Jefferson Hospital, Philadelphia, where patient Alfred J. now is—that his eruption and pains are unchanged—and that he has developed a mild optic neuritis.

Case 3. Mary G., 19. (Dr. Fuller's service.) *History:* Indefinite; skin eruption present seven or eight weeks. Admitted to City Hospital, Oct. 25, 1910.

Status Praesens: Faint general macular eruption, mucous patches of labia majora; no adenopathy.

Diagnosis: General macular syphiloderm; mucous patches of labia and throat.

Treatment and Course:

Oct. 27. Injected, Noguchi, 0.5 606, clear solution, in two portions in buttocks.

Oct. 31. Reaction from injection not very intense, though patient has passed most of the time since it was done lying on her stomach. Macular still present, as well as a small ulceration on soft palate. External genitals are now normal.

Nov. 2. Feels better; no change in condition of skin or mucosae.

Nov. 4. Buttocks in good shape; ulceration of fauces healed, only slight erythema left.

Nov. 7. Same; macular still visible, but very faint.

Nov. 10. Left hospital.

Resumé: Faint general macular syphiloderm, mucous patches of labia. Injected Oct. 27 0.5 606, Noguchi, clear solution in both buttocks. Moderate pain and disability therefrom. In thirteen days, slight fading of the faint macular eruption, disappearance of the patches from labia and throat.

Conclusions: Fair result for two weeks.

Remarks: Skin eruption was evidently on the wane when injection was given; its disappearance was apparently but little hastened by it. The mucosal lesions disappeared fairly rapidly.

Case No. 4. Alice C., 50. *History:* Indefinite; has had the ulceration a long time.

Status Praesens: Large exulcerated lesion of right leg, lower third, posterior, four by three inches in size, and very deep.

Diagnosis: Exulcerated gumma.

Treatment and Course:

Nov. 12. Injected, 606, Satenstein, 0.5, clear solution, quadratus lumborum. Very painful; morphia immediately.

Nov. 14. No inconvenience now from injection; no tenderness, no palpable mass. Possibly slight improvement in lesion.

Nov. 15. Wasserman, Sage Institute, faintly positive.

Nov. 18. Ulceration a little cleaner.

Nov. 19. Left the hospital.

Resumé: Large exulcerated gumma, injected Nov. 12 0.5 606, clear solution, quadratus lumborum. Much immediate pain, but all trouble disappeared in two days. No effect on the ulceration in one week.

Conclusions: Great superiority of the clear solution and the lumbar site. No effect on the tertiary lesion in one week.

Remarks: Time of observation entirely too short; still, the older treatment often does shew unmistakeable effects in as short a time.

Case No. 5. Sophie H., 22. (Dr. Fuller's service.) *History:* Infection one year ago, throat sore three months; other history unreliable. Admitted to City Hospital Oct. 24, 1910.

Status Praesens: Large ulceration on uvula and right tonsil, extending onto the posterior wall of the pharynx and also onto the soft palate anteriorly.

Diagnosis: Tertiary syphilitic ulceration of palate and fauces.

Treatment and Course:

Oct. 26. Injection, 0.5 606, Noguchi, clear solution, buttocks, in two parts.

Oct. 31. Two large tender indurations at injection sites; has lain on abdomen most of the time since injection.

Nov. 2. Throat ulceration cleaner.

Nov. 4. Marked improvement in palate ulceration; only a pea sized superficial ulceration is left. A new ulcer has appeared, however on the mucosa just within the angle of the jaw on the left side.

Nov. 7. Ulceration at the angle of the mouth healed. Throat ulceration the same. Indurations of the buttocks large, but not tender.

Nov. 10. Throat same; ulceration of fauces still present, but improved. Left the hospital.

Resumé: Infection one year old; throat ulcerated three months. Oct. 26, injection 606, 0.5 clear solution, buttocks, Noguchi. Moderate pain and trouble from injection. In two weeks, marked improvement in the palatal and faucial ulceration.

Remarks: Result good, not striking.

Case No. 6. George A., 29. (Dr. Fuller's service.) *History:* Chancre end of July, 1910, treated with black wash when he was in Bellevue Hospital August 8, and blue ointment. No internal treatment. Admitted to City Hospital August 15; chancre dressed; no internal treatment; left August 21. On August 30 skin eruption and angina appeared. Re-entered City Hospital Sept. 10; received four hypodermics hg. sal. a. a. gr. ss at weekly intervals; no improvement; got worse, so that he could not swallow. There was ulceration of the free border of the soft palate, uvula, and tonsil, and posterior pharyngeal wall; also ulceration at mouth of the urethra. On Oct. 11 injection 606, 0.6, Noguchi. Reported to be better next day, could eat, and eruption drying up. Urine and temperature negative. Wasserman, Noguchi, Oct. 4 $\frac{?}{\pm}$. Oct. 15 $\frac{1?}{+}$.

Status Praesens when first seen by G., Oct. 18. General papulo tubercular eruption, with many large lesions rupial in type all over the body; rupial lesions especially marked on forehead and back. Many of them are healed in part or whole. Remains of chancre evident, also general adenopathy. Mucous patches of glands, ulceration of meatus. Throat shews only a diffuse erythema; tip of uvula is gone.

Diagnosis: General secondary rupial syphiloderm; specific ulceration of meatus.

Course:

Oct. 22. Meatus lesion same; face lesions partly cicatrised; lesions of extremities still exulcerated; diffuse erythema of the throat.

Oct. 26. Wasserman, Noguchi, —.

Oct. 31. Face lesions almost entirely healed; throat well; chancrous induration still present (after three months).

Nov. 4. Has been complaining of right knee for some time; distinct swelling, much pain, and fluctuation. Pain especially at night.

Nov. 5. Periostitis of patella distinct; skin lesions not entirely healed. Wasserman, Noguchi, + trace. Refuses reinjection with 606; "would not take it on a gold plate." Put on regular mercurial treatment with steady improvement.

Resumé: Infection in July; rupial general syphiloderm and pharyngeal ulceration in September, uninfluenced by a short mercurial course. Oct. 11 injection 606, 0.6, Noguchi. Improvement of skin lesions for three weeks, persistence of the chancrous induration. Then periostitis patellae developed. Refused another 606 injection. Satisfactory improvement under mercurial treatment.

Conclusions: Slow improvement under 606, with development of a periostitis syphilitica three weeks after the injection. Unsatisfactory result.

Remarks: The refusal of the patient to be reinjected was noteworthy, as he had not suffered especially from the first one, had entered the hospital for that especial purpose, and had been a close watcher of other cases.

Case No. 7. Charles J., 23. *History:* Chancre appeared July 25, self-treated; healed in three weeks; local adenopathy; cephalalgia after sore healed; spots appeared Sept. 25, first on palms, then on arms, then general. Cephalalgia has been worse lately, and has had sore throat and fever for some time. Admitted to City Hospital, Sept. 28, 1910.

Status Praesens: General macular and small papular eruption; typical angina; general adenopathy; superficial cicatrix at chancre site. Temperature 101.2.

Diagnosis: Secondary syphilis, general maculo-papular syphiloderm, general adenopathy, angina.

Treatment and Course:

Sept. 29. Wasserman, Noguchi, strongly positive; spirochaete very abundant in sputum.

Sept. 30. Injection, 606, 0.6, Noguchi, emulsion, subscapular. Left

arm felt paralyzed after injection. Cephalalgia disappeared soon, and throat felt easier.

Oct. 2. No cephalalgia; some stiffness in right shoulder. Throat not so characteristic; eruption fading. Temperature 99. Wasserman, Noguchi $\frac{5}{+}$; spirochaete present in sputum, but immovable.

Oct. 3 and 4. Eruption fading, throat better. Nocturnal pains in legs.

Oct. 5. Face clear of eruption.

Oct. 7. General condition good; weight constant. Only stains of eruption left on body; eruption persists on palms. Adenopathy still present. Wasserman, Noguchi, $\frac{4\frac{1}{2}}{+}$.

Oct. 8. Left the hospital.

Oct. 14. Returned to hospital for inspection. Adenopathy still present; large indurated painful mass at injection site.

Oct. 15. Wasserman, Noguchi, $\frac{2\frac{1}{2}}{+}$.

Oct. 23. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Oct. 28. Readmitted to City Hospital; distinct macular syphiloderm on shoulders and arms, and new papules on palms. Complains much of headache, and of feeling badly. Stayed in hospital one day, and then went out. Wasserman, Noguchi, $\frac{1\frac{3}{4}}{+}$.

Nov. 5. Wasserman, Noguchi, $\frac{1}{+}$. Left hospital again.

Nov. 9. Reappeared at the hospital; marked maculo-papular general eruption, palmar syphiloderm, mucous patch on right tonsil. Not seen by me (G.) after this.

Nov. 14. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Nov. 28. Wasserman, Noguchi, $\frac{1\frac{3}{4}}{+}$.

Later report from Dr. Noguchi; Wasserman became strongly positive and spirochaete plentiful; throat got in very bad shape, and patient was getting worse all the time when last seen by him.

Resumé: Infection in July, followed by adenopathy, cephalalgia, angina and exanthem. Wasserman strongly positive. Injected 606 0.6 Sept. 30. Prompt disappearance of the cephalalgia and diminution of the positive Wasserman and disappearance of the spirochaete. In eleven days eruption gone, save on palms in four weeks reappearance of the general macular and palmar syphiloderm, cephalalgia and general symptoms, increase in the intensity of the positive Wasserman and reappearance of the spirochaete.

Conclusions: Decided failure of the single injection.

Remarks: Symptoms never entirely disappeared, and got as bad as before one month after injection. Patient refused a second trial.

Case No. 8. Edward B., 39. *History:* Chancre of penis two months ago, eruption five weeks ago. Admitted to City Hospital Nov. 7, 1910.

Status Praesens: Large tubercular eruption of apparently urticarial type on face and body; erythema of fauces; mucous patch on tip of tongue; no scar or infiltration at site of initial lesion; feels well.

Diagnosis: General secondary tubercular syphiloderm; angina syphilitica; mucous patch of tongue.

Treatment and Course:

Nov. 11. Injection, Satenstein, 606, 0.6, clear solution. Right quadratus lumborum. Pain very severe; morphia.

Nov. 12. Lesions shew signs of retrogression; are becoming scaly.

Nov. 14. Had temperature up to 101.5; considerable swelling, pain, and surface redness at injection site. Lesions on skin are flatter, paler, and shrinking. Distinct improvement in last forty-eight hours.

Nov. 18. All lesions retrogressing, though still present everywhere. Mucous patch on tip of tongue getting well. No temperature. Large tender erythema, dusky in places, and extending well onto front of abdomen at injection site. Urine, red blood cells in last two examinations.

Nov. 21. Induration of side very much less.

Nov. 25. Palm sized infiltration at injection site still left. Throat, tongue normal. Larger tubercles still present, smaller ones gone on body and face. Patient went out.

Resumé: Chancre in September, followed by eruption. Nov. 11, large urticarial general eruption, angina, mucous patch. Injected 606, 0.6, Satenstein, clear solution, right quadratus lumborum. In two weeks, disappearance of mucous patches, considerable improvement in exanthem.

Conclusions: Good immediate result.

Remarks: Under observation only two weeks; effects of medication equal to that of successful hg. treatment.

Case No. 9. Frank K., 40. *History:* Chancre on under surface of penis six weeks ago; general eruption three weeks ago. Admitted City Hospital, Sept. 14, 1910.

Status Praesens: Retrogressing initial lesion; general macular eruption.

Diagnosis: Sclerosis and macular syphiloderm.

Treatment and Course:

Oct. 6. Injection, 606, 0.6, Noguchi, emulsion, subscapular region.

Oct. 10. Wasserman, Noguchi, $\frac{3\frac{1}{2}}{+}$.

Oct. 15. Patient says initial lesion cleaned up and healed three days after injection, but eruption did not change. After the injection, temperature normal; urine normal till Oct. 11, when red blood cells appeared. There is a very large hard mass at injection site; macular eruption still present, but faint; general adenopathy marked; throat characteristically reddened; induration at chancre site present.

Oct. 20. Exanthem still present, but very faint.

Oct. 21. Exanthem gone; injection mass as before; chancre induration the same.

Oct. 24. No change.

Oct. 26. Wasserman, Noguchi, $\frac{3}{+}$.

Oct. 31. Left the hospital.

Resumé: Chancre August 1, exanthem August 25; both still present when admitted Sept. 14. Oct. 6, injection 606, 0.6 emulsion, subscapular, Noguchi. In three days initial lesion healed (patient's statement); in

fourteen days eruption disappeared; but penile induration still remained, as did the general adenopathy and the mass at injection site.

Conclusions: Moderately good result.

Remarks: Chancre had been present nine weeks, and exanthem five weeks, when injected; the latter disappeared, and the former healed, in two weeks. The chancrous induration, however, and the mass at injection site, remained, as did the adenopathy. Retrogressive changes were due at this time; the period of subsequent obsrvation was too short; and the Wasserman, when last made, twenty days after the injection, was practically unchanged.

Case No. 10. Annie L., 46. (Dr. Fuller's service.) *History:* Rash over body two years ago, treated at Roosevelt Hospital; at present, sore throat of six weeks' standing.

Status Praesens: Admitted to City Hospital, Oct. 6, 1910. Entire pharynx reddened, swollen, and oedematous; ulceration of right faucial pillar; edge of soft palate on right side gone. The ulceration extends over uvula and onto tonsil; its edges are ragged, its base is uneven, and in its upper part adherent gummaous material is visible. Has had some trouble with her right eye for some time, to which she has not paid much attention.

Eye examination, Dr. R. Kalish: Opacity, right cornea: retina hazy.

Diagnosis: Tertiary gummatous ulceration of palate and right tonsil. Interstitial keratitis, syphilitic.

Treatment and Course:

Oct. 6 and 10. Faint trace of albumin and red blood cells in urine; excretion subsequently normal.

Oct. 10. Wasserman, Noguchi .

Oct. 13. Injection, 606, 0.5, Noguchi, emulsion, subscapular region.

Oct. 15. No sleep from pain on night of injection. Throat was improving before injection was given (patient's statement).

Oct. 17. Throat feels better and looks somewhat cleaner. The gummatous material has gone, entire ulceration is less deep, and its lower part is partly filled with granulation tissue.

Oct. 18. Palatal ulceration extending; now involves the other side of the uvula.

Oct. 21. Uvular erosion about the same; circumcorneal injection somewhat improved, cornea a little less hazy.

Oct. 24. Lesion on right side of palate much improved; on the left side, however, there is a new ulceration, superficial, of the anterior pillar.

Oct. 27. Wasserman, Noguchi, +.

Oct. 31. Ulceration of fauces healed; slight pharyngitis only. Eye condition same.

Nov. 4. Throat well.

Nov. 7. Marked induration left at injection site.

Nov. 10. Discharged at request; condition of eye unimproved; throat well.

Resumé: Gummatous ulceration of palate and tonsil of six weeks standing, interstitial keratitis, syphilitic. Disease acquired in 1908. In-

jected, 606, 0.5, Noguchi, emulsion, subscapular, Oct. 13. Pain marked, no sleep. Improvement in throat by fourth day, renewed ulceration on fifth day; then steady improvement, and healing of throat lesions in eighteen days. Eye lesions unaffected; serum test unchanged. Induration at injection site.

Conclusions: Fair result, with intercurrent relapse, in three weeks, for throat lesions; no effect on keratitis.

Remarks: About equal to hg. treatment of ordinary kind.

Case No. 11. Isaac J., 18. *History:* Chancre in April, lasting one month, followed by general eruption; four hg. inunctions and some k i. One month ago swellings appeared in tongue, which opened up; entire tongue was painful.

Status Praesens: Admitted City Hospital, Oct. 10, 1910. Entire central area of tongue shews tubercles and some ulcerations with sharp edges and irregular bases; also superficial erosions. Scar of penile chancre present. Wasserman Noguchi, Oct. 4, $\frac{1}{+}$.

Diagnosis: Tuberculo-ulcerative syphilitic glossitis.

Treatment and Course:

Oct. 11. Injection, Noguchi, 606, 0.6, suspension, subscapular region.

Oct. 12. No sleep from pain of injection; tongue unchanged; temperature normal; urine negative.

Oct. 14. Same.

Oct. 15. Pain in tongue gone; eats to-day, and slept fairly well. No change in size of tongue lesions, but bases of ulcerations are cleaner.

Oct. 17. Improving; tubercles of tongue beginning to retrogress. Large hard induration at injection site.

Oct. 20. Some tongue erosions healed; ulcerations less deep; tubercles smaller.

Went home without consent.

Resumé: Chancre in April, general eruption; four hg. inunctions and some k. i. Disappearance of symptoms. Early in September severe tuberculo-ulcerative and superficial syphilitic glossitis. Wasserman positive, moderate. Injection Oct. 11 0.6 606, Noguchi, suspension, subscapular. In four days pain in tongue gone, improvement begun. In ten days erosions healed, ulcerations less deep, tubercles smaller. Subscapular mass left.

Conclusions: Fair therapeutic result in ten days.

Remarks: Therapeutic results about equal to moderately successful hg. treatment. Time of observation too short.

Case No. 12. Thos. A., 30. (Dr. Fuller's service.) *History:* Chancre in August, 1910, and rash; four hg. injections in City Hospital; left improved Sept. 15; readmitted Oct. 11.

Status Praesens: General eruption and eye trouble.

Oct. 11. Wasserman, Noguchi, $\frac{2}{+}$.

Oct. 13. Extensive tuberculo-ulcerative eruption. Eye examination, Dr. Kalish; acute iritis, immovable pupil, hazy cornea, right eye.

Diagnosis: Tuberculo-ulcerative secondary syphilodern; iritis syphilitica, right.

Treatment and Course:

Oct. 13. Improvement has begun before treatment; many of the dermal lesions shew distinct signs of retrogression. Injection, 606, 0.6, Noguchi, subscapular.

Oct. 15. Acute exacerbation of iritis without apparent cause. Wasserman, Noguchi, $\frac{2}{+}$.

Oct. 21. Slow progression of the healing process in most of the lesions; on left arm is a large dollar-sized ulceration, a smaller one lower down on the limb, and two on the leg, which are increasing in size. Iritis still present, less intense; atropin; iris fixed and oval; photophobia less.

Oct. 22. Examined by Dr. Fuller: "No marked change in the dermal condition."

Oct. 24. Some improvement; lesions look cleaner; eye better.

Oct. 26. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Oct. 31. All ulcerations healing.

Nov. 4. Ulcerations almost healed; eye all right, slight injection only.

Nov. 7. Last lesions healed; discharged at request.

Resumé: Chancre and early secondaries in August; insufficient hg. treatment. Extensive tuberculo-ulcerative syphiloderm and iritis in October. Skin lesions retrogressing when injected, Oct. 13, 606, 0.6, Noguchi, subscapular. In two to five days, exacerbation of iritis, and increase of some of the ulcerations; no change in skin lesions in ten days. Improvement began in twelve days; iritis gone, and skin lesions healed in three weeks. Wasserman positive reaction only slightly decreased.

Conclusions: Fair result, with intercurrent brief relapse, in three weeks.

Remarks: About equal to efficient hg. treatment; time of observation too short.

Case No. 13. John H., 47. *History:* Chancre 1881, treated one month; has always had some eruption on body since; was in City Hospital Dec., 1909 for eruption on face and ankles, not entirely healed when discharged. Readmitted to City Hospital Sept. 21, 1910.

Status Praesens: Circinate scaly lesions of heels and soles; isolated similar lesions on back, forearms, and legs. Moist papules, inner preputial folds; much pain, especially in feet and knees at night. Urine and temperature negative.

Diagnosis: Tertiary tuberculo-squamous syphiloderm of soles; similar scattered lesions on body, especially on buttocks; moist papules of prepuce; violent nocturnal pains.

Sept. 26. Wasserman, Noguchi $\frac{5}{+}$. *Injection,* 606, 0.6 Noguchi, emulsion, subscapular.

Sept. 28. Nocturnal pains worse; tubercles perhaps slightly flattened. Weight 119.5 lbs. Temperature 99.3, urine negative.

Sept. 29. Wasserman, Noguchi. $\frac{3\frac{1}{2}}{+}$.

Sept. 30 and Oct. 2. No marked change in eruption; gluteal tubercles appear larger. Weight 117.5 lbs. (loss two pounds).

Oct. 3. Wasserman, Noguchi, $\frac{4}{+}$.

Oct. 4. Skin lesions the same; mucous patches, upper pharyngeal wall, left side.

Oct. 5, 7 and 8. Local conditions, skin, mouth, and prepuce, unchanged; urine negative.

Oct. 10. No change, save that tubercles of gluteal region are slightly increased in size. Urine contains red blood cells for the first time. Wasserman, Noguchi, $\frac{2}{+}$.

Oct. 12. Eruption worse; tubercles on buttock and feet lesions more prominent.

Oct. 15. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Oct. 17. Some slight flattening of tubercles; mucosae same.

Oct. 24. No change.

Oct. 26. Wasserman, Noguchi, $\frac{\frac{1}{2}}{+}$.

Oct. 28. Marked change in eruption for the first time; lesions on feet are disappearing; those on buttocks smaller and flatter.

Oct. 31. Hardly any further change; slight retrogression of patch on buttock; pains much less.

Nov. 2. Urine, granular casts.

Nov. 4. Patch on back nearly gone; eruption on feet slowly disappearing; pains somewhat less.

Nov. 5. Wasserman, Noguchi, $\frac{\frac{3}{4}}{+}$.

Nov. 7. Back well, feet nearly so; pains better, but still present; sleeps better.

Nov. 10. Went home.

Nov. 11. Wasserman, Sage Institute, negative.

Resumé: Infection 1881; insufficient treatment; skin lesions present more or less ever since. Sept. 21, 1910, tertiary papulo-squamous syphiloderm, soles and body, moist papules of prepuce and nocturnal pains; urine negative; Wasserman strongly positive. Injection 606, 0.6 Noguchi, subscapular, Sept. 26. No retrogression in one week; then pharyngeal mucous patches. In two weeks red blood cells in urine; eruption worse. In one month, first positive change in eruption, with moderate improvement in the serum reaction. In six weeks, marked improvement in eruption, with negative Wasserman.

Conclusions: Failure, one month after injection; relapse, new mucous patches, increase of eruption, and renal irritation two and three weeks after injection. Partial improvement in six weeks in symptoms.

Remarks: Neither subjective nor objective symptoms improved after the injection; new symptoms appeared two and three weeks later. There was a noticeable betterment in six week, such as the patient states had occurred before at various times, and rather attributable to improved hygiene, better nourishment, hospital care, etc.

Case No. 14. Charles K., 28. *History:* Chancre seven weeks ago, treated in Bellevue Dispensary with hg. injections, last one ten days ago; also took some k. i. Admitted to City Hospital, Oct. 2, 1910.

Status Praesens: Wasserman, Noguchi, $\frac{4}{+}$. Spirochaete positive. Face covered with oval and circinate exulcerated and crusted lesions one to one and one-half inches in diameter. Smaller rupial lesions of arms and legs; a number of similar ones on body. Large indurated scar on penis (chancre). Exulcerated lesions of tonsils and velum. Adenopathy; gums swollen; salivation.

Symptoms and Course:

Oct. 3. Injection 606, 0.6, Noguchi, emulsion, subscapular, very painful.

Oct. 4. No sleep from pain; skin conditions unchanged; temperature 99; urine negative.

Oct. 5. Some sleep last night. Some improvement in face lesions; throat less inflamed, swelling subsiding, ulcerations not so deep.

Oct. 6. Wasserman, Noguchi, $\frac{4\frac{1}{2}}{+}$. Red blood cells in urine for the first time.

Oct. 7. General condition improved; moderate improvement in dermal lesions; but two new impetiginous lesions have appeared on the right side of the face, and one on the nape.

Oct. 8. Feels stronger; throat still sore at night, but now there is little dysphagia. Lesions of face and forehead still improving. Urine contains hyaline and granular casts.

Oct. 9. Marked improvement in throat; the mucous patches are better, and the ulcerations are healing.

Oct. 10. Wasserman, Noguchi, $\frac{2\frac{1}{2}}{+}$. Crateriform ulcerations persist with but little change in the skin; throat is the same; general condition is much better.

Oct. 12. Throat unchanged. A punched out pea-sized ulceration has appeared on the right side of the tongue; it began forty-eight hours ago, and has been increasing in size. Urine negative.

Oct. 14. Urine contains hyaline and granular casts.

Oct. 15. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$. Many of the smaller rupial lesions on the body have cicatrised, but the larger ones, especially on the legs, shew little change. Throat and tongue better.

Oct. 17. Half of all the dermal lesions have now cicatrised; some are still ulcerated on the scalp, face, and nose, but are markedly improved.

Oct. 21. Some of the still ulcerated face lesions are undoubtedly increasing in size; and two on the chin and one on the body are becoming framboesioid. New vesico-pustular lesion left ear. Says all lesions feel "sore."

Oct. 24. Is in "terrible pain," "face is on fire." An unhealed ulceration of the right ala nasi is extending fast and spreading into left ala. Ulcerative lesions of legs also extending. Was given a full hg. sal. injection.

Oct. 26. Wasserman, Noguchi, —; (regarded as "cured"). Never-

theless, through a misunderstanding, was given 0.6 606, Noguchi, clear solution, both buttocks.

Oct. 28. Ulceration of nose is extending; feels very badly.

Oct. 31. Lesions on nose improved again, and general appearance is better.

Nov. 4. Improvement continued.

Nov. 7. Nose much better; framboesioid lesions on chin retrogressing slowly.

Nov. 11. Ulceration of nose nearly healed.

Nov. 14. Nose healed; scalp lesions still ulcerated and crusted, but smaller. Framboesiodid lesions of chin shrinking. Tender masses in both glutei from second injection, also large mass in subscapular region from first injection (Oct. 3).

Nov. 18. Feels well; has gained five pounds in weight.

Nov. 25. Tense hard mass persists unchanged in subscapular region, orange sized.

Nov. 30. Mass aspirated; bloody serous fluid gotten; arsenic in the form of arsenite found in it (Sage Institute).

Dec. 6. Patient left hospital, ulcerations all healed, general condition much improved, subscapular mass still present.

Resumé: Chancre early in August; hg. injections (salivation) and iodode. On Oct. 2 extensive general rupial syphiloderm, exulcerated mucous patches of mouth, adenopathy, Wasserman strongly positive. Injection 0.6 606, Noguchi, emulsion, subscapular. Pained forty-eight hours. Improvement began three days later. Third day, red blood cells in urine, later hyaline and granular casts repeatedly. On fourth day a few new dermal lesions; on tenth day a new mucosal one. By fifteenth day, slow cicatrisation of most lesions, some being healed. By eighteenth day, evident extension of many of the lesions, especially that on the tip of the nose; new lesions. On the twenty-second day was given two hg. sal. full dose injections, and on the twenty-fourth day, through error, 606, 0.6, clear solution, Noguchi, buttocks. For four days after this all the lesions, as well as the patient's general condition got worse; and then improvement begun again. The patient left the hospital eight weeks after the first injection, and five weeks after the second and the hg. sal., with all dermal and mucosal lesions healed, and his general condition good. There was a large mass left from the first 606 injection, in which was a fluid containing arsenic.

Conclusions: Steady but slow improvement from the first 606 injection; then relapse with dermal and mucosal manifestations. In spite of this, steady improvement of the Wasserman until it was negative. Then second dose of 606, with a massive mercurial injection. Then steady improvement in all symptoms, till they had disappeared in six weeks. Serious kidney involvement.

Remarks: A malignant secondary case, slow improvement, with a relapse; then slow improvement again after a second dose of 606 and mercury. It took nearly nine weeks to heal the lesions. Two sources of confusion were the facts that some of the arsenic, at all events,

was not absorbed from the first injection, and that the patient received two grains of hg. sal. along with the second one.

Addendum: Dec. 11. Reappeared at office. All ulcerations healed, feels well; throat well; had seven hg. injections in Bellevue and two in City Hospital.

Case No. 15. Ernest A., 29. (Dr. Fuller's service.) *History:* Chancre of glans, August, 1910; ten days later a second one on dorsum of penis near base; self treatment. Angina in September, which has gotten worse; no internal treatment. Admitted to the City Hospital, Oct. 10.

Status Praesens: Two indurated lesions as described; general adenopathy; general macular exanthem; mucous patches of the mouth and the muco-cutaneous junctions.

Diagnosis: Primary and secondary syphilis, double chancre; general macular syphiloderm; mucous patches of mouth.

Treatment and Course:

Oct. 11. Wasserman, Noguchi, $\frac{2}{+}$.

Oct. 13. Injection, 606, 0.6, Noguchi, emulsion, subscapular.

Oct. 15. Wasserman, Noguchi, $\frac{2}{+}$.

Oct. 20. Penile lesions healing, still excoriated. Mouth same; small mucous patch on retropharyngeal wall; adenopathy and eruption still present.

Oct. 21. Macular present; penile lesions healing very slowly.

Oct. 24. Some improvement in throat; no change in chancres. Macular still visible.

Oct. 26. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Oct. 31. Hypertrophic papules at angles of mouth the same; mucous patches of mouth the same. Slow progress in healing of the chancres. Eruption gone. Complains greatly of pains in the legs at night, which he says has been greater since he got 606.

Nov. 4. Mouth unchanged, also the pains.

Nov. 5. Wasserman, Noguchi, $\frac{1}{+}$.

Nov. 7. Mouth unchanged. Of the two penile lesions, the upper one is very slowly improving, the lower one, however, has extended if anything, in the last few days. Marked periostitis of left tibia, swelling, tenderness, and pain, especially at night. Eroded moist papule of anus. Adenopathy marked and characteristic. Complains of soreness in interior of nose; nothing visible; to be examined in dark room.

Nov. 9. Swelling on left tibia larger, but not so tender. In the skin of the right leg, posteriorly and just below the calf, is a moderately large, painful, subcutaneous nodule, with slightly reddened surface.

Nov. 11. Periostitis of the left tibia, nodule in the skin of the right leg, and anal moist papule, unchanged. Patient refuses another injection of 606; says that his mouth and legs have gotten worse ever since he received the first. Says that he wants mercury, or he will leave the hospital. The penile lesions are improving, but with extreme slowness; there are mucous patches in the fauces, as well as the old ones at the

angles of the mouth; and there is a fairly well marked general macular eruption again.

He was put on the ordinary treatment, and his symptoms retrogressed satisfactorily. On Nov. 25 as a large hard mass was still present at the site of his injection six weeks before, it was aspirated, and the report (Sage Institute) shewed that the pale yellow contained a small amount of arsenic.

Resumé: Primary syphilis in August, secondary in September, 1910. City Hospital, Oct. 10, two ulcerated chancres of the penis, adenopathy, macular, buccal mucous patches. Oct. 13 injection 606, 0.6, emulsion, subscapular, Noguchi. Seven days later very little change; slight improvement in the chancres, exanthem, adenopathy, and mucous patches still present. In three weeks, condition much the same save for some progression in healing of the chancres. Then developed a periostitis of the left tibia, a gummatous infiltration in the right leg, an anal moist papule, and faucial mucous patches. One month after the first injection patient refused a second one. Large indurated mass at injection site was found, seven weeks after the operation, to contain a fluid with a small amount of arsenic.

Conclusions: Practical failure of 606. The improvement noted was as slow and halting as if no treatment at all had been used, and new symptoms appeared quickly.

Remarks: There was but little arsenic in the fluid of the subscapular mass.

Case No. 16. Gustav J., 28. *History:* Penile chancre in June, treated in Harlem Hospital Dispensary; sores on body in first week of July, followed by angina and cephalalgia; has had treatment until admission to City Hospital, Sept. 19, 1910.

Status Praesens: Deep, irregular, sloughing, indurated ulceration of penis; general tuberculo-ulcerative eruption on face, body and limbs, many lesions covered with rupial crusts. A few of these lesions are completely cicatrised, and others are healing. In right ala nasi is a large ulcerated and crusted lesion. Mucous patches of pharynx and fauces. General adenopathy; anaemai; weakness. Wasserman, Noguchi, negative.

Diagnosis: Phagadaenic chancre, tuberculo-ulceration and rupial general syphiloderm, mucous patches.

Sept. 24. Wasserman test, Noguchi, negative.

Sept. 26. General improvement, without special treatment, during the first week. Many lesions are healed, leaving stained scars, but some lesions on legs, thighs, and nose are extending. Mucous patches gone. Injection, Noguchi, 0.5 606, emulsion, subscapular.

Sept. 28. Stiffness of right shoulder; feels a little stronger; dermal lesion unchanged. Urine negative. Temperature, highest, 99.3.

Sept. 30. General condition improving; skin lesions improving, save on nose, where the ulceration is extending.

Oct. 2 and 3. Condition unchanged; nasal ulceration stationary; urine negative. Wasserman, Noguchi, negative.

Oct. 4 and 5. Feels much better; all lesions improving. Urine and temperature normal.

Oct. 7. Steady but slow improvement in all but nose lesion; red blood cells in urine.

Oct. 8. Penile ulceration cleaner and granulating; nose lesion slowly improving.

Oct. 10. General condition good. All skin lesions are now healed, save those on lower legs and nose, which, however, are improving markedly. Urine contains red blood cells. Patient for the first time calls attention to trouble in his left hand, which was present to a slight degree when he entered the hospital, but did not bother him. For the last few nights it has been increasingly painful, and the hand has begun to swell. The entire shaft of the middle metacarpal bone of the left hand is swollen and tender.

Oct. 14. Swelling and tenderness of hand increased. The proximal phalanx of forefinger of right hand is now swollen also, though not especially tender.

Oct. 17. Nasal ulceration still slowly improving; tenderness and swellings of hands increased.

Oct. 20. Swelling of the left hand still more marked and painful; the brawny infiltration of the phalanx of the right hand is unchanged. The ulceration of the ala nasi has increased markedly during the last few days; it is one-half larger than before, and has spread over the columella and onto the left ala. The penile lesion is also in bad condition; the deep ragged ulceration with undermined edges has greatly extended. An ulcerated lesion on the righ thigh, which was healed, has broken down again. The internal malleoli on both sides are swollen and tender. The patient says that he is getting worse every day, and implores that something be done for him.

Oct. 21. The swelling of the left metacarpal bone has increased to such an extent that it is visible in the palm of the hand.

Oct. 24. All the lesions are undoubtedly getting worse; orders hg. sal. injection, one and one-half grain.

The patient improved under the hg. and I. treatment, but slowly; and after two weeks of it, having had three hg. injections and large doses of k. i. and shewing symptoms of mercurial and iodic intoxication, on Nov. 7 all medication was stopped. The bedridden patient, whose condition was lamentable, was placed in a sunny window, extra diet, stimulants, etc., were freely given; and not a drop of medicine, not even ward tonic, was administered. The effect was marvellous. In two days his general condition was better, the ulceration of the ala was cleaner, and contracting, the penile ulcerations began to heal, and the periostites, which had been improving, did so much more rapidly. In one week after all treatment was stopped he gained six pounds in weight; and in the second week he had gained four pounds more, and was up and about. On Nov. 25, twenty-one days after all treatment was stopped the penile lesions had healed, all the body lesions save one or two on the legs were entirely well, the nose was cicatrised. On Dec.

6, one month after stoppage of treatment, he went out perfectly well so far as manifestations of his infection were concerned, feeling splendidly, and weighing 149 pounds, more than his usual weight.

It is worthy of note, though the details need not be given here, that repeated Wassermans by Dr. Noguchi (perhaps twenty in all), both before and after his injections, gave a uniformly negative result.

Resumé: Chancre in June, secondaries in July; improvement under the usual treatment; Wasserman negative. Admitted to City Hospital Sept. 19 with a sloughing initial lesion, a general tuberculo-ulcerative and crusted eruption, retrogressing and partly cicatrised ulceration of the ala nasi, and mucous patches. Injection Sept. 26, 0.5 606, Noguchi, emulsion, subscapular. The skin lesions improved in fourteen days, many of them healing; but in the third week periostitis of various bones appeared, the nasal and penile ulcerations extended, and the general condition got much worse. The patient was then put under a vigorous hg. and k. i. treatment for two weeks, under which he improved only moderately. All treatment was then stopped, and under nothing but ordinary hygienic measures improvement was very prompt. Its beginning was apparent in two days; and in less than three weeks all lesions were healed, ten pounds in weight was gained, the patient was up, and felt entirely well. He left the hospital in excellent health one month after all treatment was stopped.

Conclusions: Some temporary improvement after the injection; then relapse and renewed symptoms of serious import. Failure.

Remarks: This patient, as is so often the case, was suffering from chronic mercurial and iodic intoxication more than from his syphilis.

Case No. 17. Andis D., 24. *History:* Chancre in June, mouth and throat trouble in July. Admitted City Hospital, Oct. 7, 1910. Is to be deported as a sick immigrant.

Status Praesens: Indurated scar at site of penile chancre; adenopathy; atrophic circular lesions on palms; tuberculo-squamous lesions on soles; papules on under surface of sheath of penis; agina; mucous patches on left side of lower lip, near angle, also on right fauces and on uvula. Wasserman, Noguchi, $\frac{5}{+}$. Spirochaete, Noguchi, positive.

Diagnosis: Secondary tuberculo-squamous palmar and plantar syphiloderm. Angina syphilitica; mucous patches of mouth.

Treatment and Course:

Oct. 7. Injection, 606 0.6, Noguchi, emulsion, subscapular.

Oct. 8. No sleep on account of pain; throat same. Wasserman, Noguchi, $\frac{4}{\pm}$.

Oct. 10. Condition of mouth and throat improved; mucous patches less pearly and prominent. Between the anterior and posterior left faucial pillars is a new patch, ulcerated. Wasserman, Noguchi, $\frac{2\frac{1}{2}}{+}$. Spirochaete, Noguchi, plentiful. Urine, granular casts.

Oct. 12. Mucous patches distinctly better; urine negative.

Oct. 13. Spirochaete, Noguchi, absent.

Oct. 17. Mucous patches not very distinct; penis eruption nearly gone; palmar and plantar syphiloderms retrogressing; mucous patch of lip gone.

Oct. 21. Atrophis indications only of plantar and palmar eruptions. Throat feels better, ulceration of left faucial pillar healed, opaline patch only remaining.

Oct. 24. Same.

Oct. 26. Wasserman, Noguchi.

Oct. 31. Specific angina marked, though only small ulcerations remain.

Nov. 2. Granular casts, urine.

Nov. 4. Suspicious white patch on palatal arch. Granular casts, urine.

Nov. 7. Distinct mucous patch on palate, also another on left faucial pillar.

Nov. 10. Several mucous patches on fauces and uvula. The patient should have had another 606 injection; but as he was to be deported shortly, it was not deemed advisable to administer it. Put on hg. treatment. Deported Dec. 6.

Resumé: Primary syphilis in June, secondary in July. Admitted to City Hospital Oct. 7 with indurated remains of chancre, palmar and plantar syphiloderm, papules on under surface of sheath of penis, and mucous patches of lips, fauces, and uvula. Wasserman and spirochaete, Noguchi, positive. Injection 606, 0.6, Noguchi, emulsion, subscapular. Improvement in three days, but spirochaete still plentiful, Noguchi. Nevertheless, renewed faucial ulceration, and granular casts in urine. Distinct improvement in six days, spirochaete absent, urine normal. One month after 606 injection, renewed outbreak of pharyngeal mucous patches.

Conclusions: Failure; immediate improvement, but relapse one month after injection.

Remarks: As usual, the mucosal symptoms responded most quickly to the 606, but also relapsed first.

Case No. 18. William L., 33. (Dr. Fuller's service.) *History:* Chancre and eruption ten years ago; inunctions for six weeks; later, angina, salivation. For two months past has had an ulceration of the penis, and buccal mucous patches. Admitted to City Hospital, October 10, 1910.

Status Praesens: Very large ulceration of glans and entire undersurface of sheath of penis; half of glans destroyed. Mucous patches of mouth.

Diagnosis: Gummatous ulceration of glans penis and sheath; buccal mucous patches.

Treatment and Course:

Oct. 11. Wasserman, Noguchi, $\frac{3}{+}$.

Oct. 14. Both penile and mouth lesions have begun to shew signs of improvement in the last two days. Injection, 606, 0.6, Noguchi, emulsion, subscapular.

Oct. 15. Wasserman, Noguchi, $\frac{1}{+}$.

Oct. 17. Ulceration doing well; healing.

Oct. 24. Healing has apparently stopped; no change in the last day or two.

Oct. 26. Wasserman, Noguchi, —.

Oct. 28. Ulceration of penile lesion extending again; mucous patch on left tonsil; large painful tumor at injection site.

Oct. 31. Mucous patch at base of left anterior faucial pillar.

Nov. 2. Trace of sugar in urine.

Nov. 4. Trace of sugar again; ulcerative process on penis at a standstill.

Nov. 7. No sugar; mouth clear; penile lesion extending, and a new small ulceration has appeared next to it.

Nov. 10. New lesion has healed.

Nov. 14. Left the hospital. Wasserman, Noguchi, —.

Nov. 20. Reappeared at office for inspection. The injection site is the seat of a large fluctuating mass, red on the surface and apparently about to break. Adenopathy and ulceration of the penis still present. The secondary lesion, noted as healed on Nov. 10 has broken down again. Mouth all right, and feels well. Will not go back to the City Hospital, as he fears that he will be deported. Rejects the proposition of another 606 injection; fears it might kill him.

I sent the patient into my service at Lebanon Hospital, where the fluctuating tumor of the back was incised and drained. Dr. Parker Syms, who operated, reported to me that there was a superficial abscess, and below that a cavity filled with a clear fluid which the laboratory reported to contain arsenic. The infection was probably due to some aspiration attempt. All the tissues of the injection cavity were black and necrotic. Last seen Nov. 26.

Resumé: Syphilis ten years ago; now exulcerated gumma of glans and sheath, and buccal mucous patches. Wasserman strongly positive. Oct. 14, injected 606, 0.6, Noguchi, emulsion, subscapular. Improvement for several days, then stoppage, and subsequent extension of the ulcerative process. New gummata appeared, and the penile ulceration was not entirely healed in six week. Large tumor at injection site, finally incised, and found to contain arsenic. Patient refused a reinjection of 606.

Conclusions: Very slow and halting improvement.

Remarks: This patient was not getting worse, but the contrary, when given the injection.

Case No. 19. Gustav N. *History:* None obtained; admitted to City Hospital Nov. 14, 1910.

Status Praesens: General macular eruption; large condylomata and moist eroded papules of anus, perineum and scrotum.

Diagnosis: Secondary macular syphiloderm; exiberant and eroded moist papules of anus, periueum and scrotum.

Treatment and Course:

Nov. 19. Injection, 606, 0.4, clear solution, right quadratus lumborum muscle, Satenstein.

Nov. 21. Macular eruption almost gone; perianal and scrotal lesions much improved. Considerable pain and tenderness at injection site.

Nov. 22. Red blood cells in urine.

Nov. 24. Red blood cells in urine.

Nov. 25. Eruption still visible; improvement continues.

Nov. 26. Red blood cells in urine.

Nov. 28. Red blood cells in urine.

Nov. 30. Perianal and genital papules almost gone; remains of macular exanthem still visible.

Dec. 6. Genitals normal; eruption gone.

Resumé: On Nov. 19, general macular syphiloderm and moist papules of anus and genitals; injection, 606, 0.4, clear solution, right quadratus lumborum muscle. Next day, red blood cells in the urine, which persisted until discharge. Prompt improvement in one day, disappearance of lesion in seventeen days.

Conclusions: Successful; faster than usual with hg. treatment.

Remarks: Renal irritation was marked in this case, lasting till discharge, in spite of small dose.

Addendum: Dec. 19. Mucous patches of entire tip of tongue, —.

Case No. 20. Elisabeth M., 30. *History:* Has noticed swelling of the genitals since September 10; throat trouble began a few days before admission. Admitted to City Hospital, Oct. 24.

Status Praesens: Fading general maculo-papular eruption, circumscribed erythema of the throat, and a mucous patch on left side of tip of tongue. The left labium majus is swollen and oedematous and hard; it measures two and one-half by one and one-half inches, and shows one large and deep ulceration, and two smaller more superficial ones. Right labium oedematous also, but not hardened, and shows no ulcerations.

Diagnosis: Multiple chancres of labium majus, general maculo-papular syphiloderm, angina syphilitica, mucous patch of tongue.

Treatment and Course:

Oct. 26. Hg. sal. one and one-half grain, intramuscular. Calomel locally.

Oct. 27. Injection, Noguchi, 606, 0.5, clear solution, both buttocks. Wasserman, Noguchi, $\frac{1\frac{3}{4}}{+}$.

Oct. 31. No sleep the night of the injection, and very little since; both buttocks swollen and tender. Says there has been less pain in her privates since the injection. Macular eruption faint.

Nov. 2. Genital lesions look somewhat cleaner; otherwise no change.

Nov. 4. Eruption continuing to fade; mucous patch of tongue gone. Large bluish erythematous masses occupy the injection sites.

Nov. 5. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Nov. 7. Left buttock occupied by a large tender infiltration; less marked infiltration of the right. Genital lesions unchanged, but cleaner.

Nov. 14. Left labial mass smaller, surrounding inflammation subsiding, ulcerations healing.

Nov. 18. Induration of left buttock not quite so tender.

Nov. 21. Tenderness of buttock gone; labial induration markedly less, and ulcerations slowly healing.

Nov. 28. Induration of buttock still present, decreasing. Chancrous induration of labium lessening, and ulceration slowly healing. New moist papules on right labium majus.

Dec. 6. Indurations of buttocks still present. Ulceration of labium is slowly cicatrising, characteristic induration still present. The moist papules of the right labium have increased in size, and one has appeared on the perineum.

Dec. 8. Continued improvement in local conditions, but ulceration and induration still present. Moist papules retrogressing.

Resumé: Chancre present since Sept. 10, angina since about Oct. 20. Admitted to City Hospital Oct. 24, with a fading general macular syphiloderm, three exulcerated chancrous lesions of the left labium majus, and a mucous patch of the tongue. Was given one and one-half grains hg. sal. Oct. 26; on the 27th, injection, Noguchi, 606, 0.5, in two parts into the buttocks. Much pain from injection, no sleep. One week later the genital lesions looked cleaner, but were otherwise unchanged; the eruption became fainter, and the mucous patch disappeared. During the six weeks since that time the chancre has been steadily healing, but very slowly; it was still present and ulcerated on Dec. 8. New moist papules have appeared on the labium (right) and perineum. Painful buttock indurations persisted one month.

Conclusions: Failure; six weeks after the injection the ulcerated initial lesion was still present, and new genital papules had appeared.

Remarks: This patient, by mistake, received one massive hg. sal. injection just before she was given 606. Similar slow progress and relapse would have been unsatisfactory under hg. treatment.

Addendum: Dec. 19. Vulvar lesion not yet entirely healed. Flat tuberculo-squamous lesions on buttocks, legs and arms, new.

Case No. 21. Sadie D., 22. *History:* Sores appeared on genitals about one month ago. Admitted Nov. 17.

Status Praesens: General macular eruption, papular on legs; adenopathy, angina, papules of vulva and perineum.

Diagnosis: Secondary macular syphiloderm, specific angina and adenopathy, condylomata lata of vulva and perineum.

Treatment and Course:

Nov. 19. Injected, 606, 0.5, Satenstein, clear solution, right quadratus lumborum. Much pain, morphia at once.

Nov. 21. Some fading of eruption, but none on legs; patient says the spots are worse there. Other symptoms unchanged. Wasserman, Sage Institute, faintly positive. Red blood cells in urine.

Nov. 23. Red blood cells and albumin, trace, in urine.

Nov. 25. Red blood cells and albumin, trace, in urine.

Nov. 28. Condylomata lata nearly gone, throat the same. Albumin, trace, and red blood cells in urine.

Dec. 1. Urine negative.

Dec. 2. Eruption gone on body, still marked on legs; urine negative.

Dec. 6. No sensitiveness in injection region. Eruption almost gone from legs; genitals normal; urine normal.

Dec. 8. Symptoms cured.

Resumé: Admitted Nov. 17 with a general maculo-papular eruption, condylomata lata of vulva and perineum, angina, etc. Injected 606, Satenstein, 0.5, clear solution, right quadratus lumborum. Much pain, morphia. Two days later, red blood cells in urine, which persisted, associated with a trace of albumin, for a week, and then disappeared. Condylomata disappeared in ten days, skin eruption in nineteen days.

Conclusions: Successful case. Marked renal irritation.

Remarks: One of the quickest of the 606 cases; has only been under observation three weeks.

Addendum: Dec. 19. Good condition; no lesions.

Case No. 22. Isabella F., 23. (Dr. Fuller's service.) *History:* Has had sores on her privates; is pregnant. Admitted Oct. 8.

Status Praesens: Has a general macular eruption, a general adenopathy, mucous patches of the labia minora and vagina; there is a large superficial ulceration of the right labium minus extending one-half inch into the vagina.

Diagnosis: Secondary macular syphiloderm, mucous patches of genitals, partly exulcerated, adenopathy, etc.

Treatment and Course:

Oct. 10. Wasserman, Noguchi, $\frac{\pm}{+}$.

Oct. 11. Injection 0.5, 606, Noguchi, emulsion, subscapular. Very painful; did not sleep that night.

Oct. 12. (Nurse's note) Rash extending to face, and more general on body.

Oct. 15. Feels better, no temperature, urine negative, eruption fading, but still present; mucous patches of vagina improving. Urine contained a faint trace of albumin several times.

Oct. 17. Continued improvement.

Oct. 21. Eruption entirely gone; vaginal mucous patches and ulcerations have healed. (Aristol and antiseptic irrigations used.)

Oct. 24. Large induration at injection site. Traces of eruption still present.

Oct. 27. Wasserman, Noguchi, $\frac{1}{+}$.

Oct. 31. Large tender purplish mass, right side, in axillary line. Distinct plantar papules, noted to-day for the first time.

Nov. 4. Injection induration slowly receding; orange sized tender mass present yet. Plantar eruption fading.

Nov. 7. Induration pains her much; cannot sleep at night for it; remains only of plantar lesions visible.

Nov. 18 and 21. Induration mass softening and reddening on surface.

Nov. 28. Mass fluctuating; rest of body free; general condition good.

Dec. 2. Mass incised; fluid contents shewed arsenic in the form of arsenite. Walls of cavity black and necrotic, even the muscle. Report from Sage Institute; entire mass in a state of dry necrosis, small fluid containing sack in center. Dry sterile packing.

Dec. 8. Large dry necrotic mass protruding from incision.

Resumé: Patient six months pregnant, admitted to City Hospital Oct. 8 with a secondary macular syphiloderm, mucous patches of the genital, partly ulcerated, and general adenopathy. Wasserman positive. Oct. 11 injected, Noguchi, emulsion, subscapular, 0.5 606. In two weeks all symptoms had disappeared (local treatment was used also.) In third week, plantar papules, lasting only one week. Indurated mass left by injection became so troublesome that in six weeks it had to be incised; found to be composed of a mass of necrotic connective tissue and muscle, with a small central cavity with fluid containing arsenic in the form of arsenite (Sage Institute). When last seen the necrotic mass was being extruded through the incision.

Conclusions: Successful; symptoms disappeared in two weeks; temporary relapse in third week.

Remarks: This extensive necrosis was found in all cases where a tumor persisted. It did not, in this case, seem to interfere with therapeutic action.

Case No. 23. Annie S., 45. *History:* Eruption first appeared six months ago; no treatment; has been getting better for the last month. Trouble with her eyes for some time. Admitted to City Hospital, Nov. 1, 1910.

Status Praesens: Marked general macular eruption, with a sparser papulo-squamous one scattered through it; iritis, left eye; adenopathy; angina; hard oedema of left labium majus, with numerous tubercles along its inner border. There is a group of similar tubercles in the femoral region, and an eroded mucous patch at the inferior vaginal commissure. Tubercles of palms and soles.

Diagnosis: Induration of initial lesion in left labium majus, with secondary moist papules along border of the organ; general macular and papulo-squamous syphiloderm; iritis syphilitica; vaginal mucous patch; palmar and plantar syphiloderm.

Treatment and Course:

Nov. 3. Atropin solution, two per cent., two drops every two hours, to eye.

Nov. 4. Pupil beginning to dilate.

Nov. 7. Feels better; lesions on hands and face retrogressing, tubercles flattening; mucous patch of inferior vaginal commissure almost gone; induration of labium going down.

Nov. 12. Injection, Satenstein, 0.5 606, clear solution, right quadratus lumborum. Very painful; morphia immediately.

Nov. 14. Face better; papular lesions getting more scaly; macular eruption the same; iritis gone, though atropin was discontinued for the last three days; synechia.

Nov. 16, 17, 21, 23, 25 and 28. Red blood cells in urine.

Nov. 18. Some further improvement, especially in face. Only remains of vaginal mucous patch present. Hardly any inconvenience from injection.

Nov. 21. Patient looks and feels better; moderate improvement. Macular eruption still visible. New mucous patch on left anterior faucial pillar.

Nov. 28. Macular still visible; genital tubercles gone; face tubercles improving; remains of mucous patch in vagina still evident, as also induration of labium majus.

Dec. 6. All lesions healed; eye well; injection site absolutely normal.

Resumé: Macular and papulo-squamous syphiloderm of five months' standing retrogressing when first seen; left iritis; adenopathy; induration of initial lesion left labium majus, palmar and plantar syphiloderm. Admitted, City Hospital, Nov. 1, 1910; iritis retrogressed under atropin. Injection, 606, 0.5, Satenstein, clear solution, quadratus lumborum, right. Nov. 12. Very painful, morphia needed, but gave no further trouble. In four weeks all the lesions had disappeared. Red blood cells in urine two days after injection, persisting twelve days, then disappearing.

Conclusions: Successful, in a fairly malignant case; not especially rapid. Marked renal irritation.

Remarks: Apparently the quadratus lumborum site and the clear solution is far superior to the emulsion used in the back.

Case No. 24. Louise C., 53. *History:* Eruption in July, 1909, lasting the rest of the summer; Christmas, 1909, large and small lumps on arms, lasting two or three months, and leaving scars. Similar lumps, walnut-sized, on legs which broke, in August, 1910. Admitted to City Hospital, Oct. 4.

Status Praesens: Characteristic scars of old eruption on arms and legs. On the posterior aspect of the lower part of the right leg is a deep, irregular, clover-leaf-shaped ulceration, each segment one-half inch in diameter, quite deep, necrotic base, sharp undermined edges. On left leg is a smaller similar ulceration, more superficial, and apparently healing.

Diagnosis: Tertiary gummatous ulceration of legs.

Treatment and Course:

Oct. 4. Wasserman, Noguchi, $\frac{7}{+}$.

Oct. 7. Injection, Noguchi, 606, 0.5, emulsion, subscapular. Not very painful.

Oct. 8. No sleep from pain, which is still present. Ulceration of right leg has progressed; more gangrenous and fouler; simple ointment dressing; urine and temperature normal.

Oct. 10. Wasserman, Noguchi, $\frac{3}{+}$. Some small improvement in ulceration of right leg.

Oct. 11. Red blood cells in urine.

Oct. 12 and 14. Lesions improving; granulations coming up. Urine normal.

Oct. 15. Wasserman, Noguchi, $\frac{3\frac{1}{2}}{+}$.

Oct. 17. Continued improvement; large tender induration present at injection site.

The patient now had an intercurrent attack of erythema multiforme, with fever, joint pains, and a characteristic eruption on the face, neck, and forearms. This lasted till Nov. 4, the leg ulcerations meantime remaining in statu quo until Nov. 4.

Oct. 27. Wasserman, Noguchi, $\frac{1\frac{1}{2}}{+}$.

Nov. 4. A new gummatous mass has appeared in the skin of the left leg at the site of an old specific scar. It has already broken down, is open, and exuding.

Nov. 5. Wasserman, Noguchi, $\frac{1}{+}$.

Nov. 7. Leg ulcerations are extending, if anything. There are now three.

Nov. 14. Old ulceration of left leg undoubtedly extending; new lesion stationary, as is the ulceration of the right leg.

Nov. 20 and Dec. 8. No marked change. Put on ordinary treatment.

Resumé: General secondary eruption July, 1909, gummata of body and limbs Christmas, 1909, and August, 1910. Admitted to City Hospital Oct. 4, 1910, with gummatous ulcerations of both legs. Wasserman very strongly positive. Injection 606, 0.5, Noguchi, emulsion, subscapular, Oct. 7. Painful. Red blood cells in urine once, Oct. 11. Moderate improvement in the gummatus ulcerations in ten days, then intercurrent attack of erythema multiforme; stoppage of improvement; new gumma one month after injection. No further improvement up to the eighth week; put on mercury and iodide.

Conclusions: Failure, though the Wasserman improved steadily. Transitory renal irritation.

Remarks: The intercurrent erythema multiforme may have had something to do with this failure. Query, Can it have been caused by the injection? It did not appear till ten days later.

Case No. 25. Abraham G., 45. (Dr. Fuller's service.) *History:* Chancre twenty-two years ago; fourteen months ago a pea-sized lump appeared on dorsum of penis, gradually spread, broke, and discharged yellow pus. Finally the whole dorsum of the penis and a large part of the glans became involved. Was treated at Bellevue Hospital with red wash. Admitted to City Hospital Sept. 26.

Diagnosis: Extensive gummatous ulceration of dorsum of penis and glans.

Treatment and Course:

Oct. 4. Has been treated with a black powder (charcoal). The ulceration has been steadily improving and getting cleaner. Wasserman, Noguchi, $\frac{4}{+}$.

Oct. 6. Injection, Noguchi, 606, 0.6, emulsion, subscapular.

Oct. 8. No change; slow healing progresses.

Oct. 10. Wasserman, Noguchi, $\frac{1}{+}$.

Oct. 21. Healing progressing slowly, but satisfactorily.

Oct. 24. No change since last note.

Oct. 26. Wasserman, Noguchi, $_{+}$.

Oct. 31. Slowly healing; has gained flesh; complains much of the very large induration mass in his back at injection site.

Nov. 4. Very little progress in healing lately. Complains of nocturnal pains. The large hard mass at injection site, the patient states, nearly went away soon after the injection, and then returned.

Nov. 5. Wasserman, Noguchi, trace.

Nov. 7, 10 and 14. Same slow healing of penile lesion.

Nov. 17. Subscapular mass aspirated; healing of penile ulceration at a standstill.

Nov. 21. Penile ulceration extending; patient absolutely refuses another 606 injection.

Nov. 25. Report (Sage Institute) on aspirated fluid; arsenic found present in very small quantities by the silver, none by Marsh's test.

The mass in the patient's back was finally incised and drained; the tissues were in the usual state of black dry necrosis; packed; balsam dressing. Was now put on the usual treatment.

Resumé: Gumma of the penis and glans, present fourteen months; local mercurial treatment only, with beginning improvement. Admitted to City Hospital Sept. 26, Wasserman strongly positive. On Oct 6 injection, Noguchi, 606, 0.6, emulsion, subscapular. A large painful mass formed at injection site, aspirated six weeks later, and found to contain a very little arsenic in the form of arsenite. The surrounding tissues were in the usual condition of black, dry necrosis; the lesion was packed and drained. Influence of the injection on the gumma was very slight; healing, which was under way before progressed very slowly for six weeks, and then stopped. The patient was therefore put on hg. and k. i.

Conclusions: Failure in six weeks.

Remarks: Very little arsenic found in the injection tumor. Patient refused another 606 injection.

Addendum: Dec. 16. Penile lesion practically healed.

In the observation of these cases it has been my earnest endeavor to preserve an impartial attitude; and in judging of the results attained the purest objectivity has prevailed. Neither our natural and proper disapprobation of a proprietary remedy that has been marvellously exploited in the public press on the one hand, nor our respect for the great teacher who has proposed it and the many authorities who have advocated it, on the other, should greatly influence our decisions. Of course the latter factors necessitate the greatest care in drawing conclusions, and more especially require a full consideration of any special occurrences that may have been the occasion, in part at least, of a record of results that are not in entire accord with those of others.

Two other points deserve consideration here. The attitude of the syphilographer, who sees lues every day, is very different from that of the general practitioner towards it. The former

finds in syphilis, in the vast majority of cases, a tractable and readily controllable disease; and he has, in the remedies habitually employed, most potent weapons that very rarely fail him. He is not surprised to see them effective in a few hours, or a day or two. It is of common occurrence to see a subjective symptom like the cephalalgia relieved in an hour and gone in a day after an effective mercurial dose; to note gumma of the tongue, softening and threatening to break, disappear after one dose; or to find distinct signs of improvement in ulcerative lesions that may have been present for months, in two or three days. These things seem wonderful to those who do not see them often; but they are of everyday occurrence to those dealing largely with the affection. Our judgment, then, of the action of a newly proposed remedy for the disease is made in comparison with what we should expect from the older method of treatment in similar cases.

The second point is of equal importance. There is a radical difference of attitude to the disease in many parts of the Continent of Europe from that entertained here, and in England and France. We look upon the malady and a long continued infection of gradually decreasing severity, to be treated with more or less persistence, symptoms or no symptoms, for long periods of time. On the Continent each outbreak is looked upon as an entity, a relapse; and each cessation of symptoms as a cure, at all events temporarily. More especially is this the case when in addition to the cessation of ordinary signs, the serum reaction becomes negative. Looking over the lists of cases published in many of the European journals, one cannot but be struck with the frequency with which patients in whom the symptoms have disappeared and the Wasserman has become negative, are discharged as cured cases. The same thing occurs every day with mercury; yet we do not consider these cases as cured.

Analysing the list above presented, it is evident in the first place that arseno-benzol exercises a distinct and powerful immediate curative effect on the manifestations of the luetic disease. The exceptions to this were only cases two, twenty-four and twenty-five, in which in six to eight weeks there was practically no effect. But in cases six, seven, thirteen, fifteen, sixteen, seventeen and twenty, whilst there was improvement, it stopped after a time, or there appeared new symptoms of the disease. Case six had a periostitis patellae after three weeks; case seven had a

reappearance of eruption, general symptoms, increased Wasserman, and spirochaete once more four weeks later; thirteen had new mucous patches at the fourth week; fifteen had periostitis of the tibia, skin gummata, and moist papules at the same period; sixteen had renewed ulcerations, bone and general symptoms at a like time; seventeen had mucous patches after one month; and twenty had new moist papules five weeks post injectum. Now I hasten to say that of these ten practical non-successes eight had been treated by the subscapular emulsion method, and had larger or smaller persistent tumors; two of them were subsequently operated on, with the findings of necrotic tissue and arsenic containing fluid in their mass. The other six, however, had the tumors that usually occur under this method, disappearing spontaneously in time. Of the two remaining failures one was treated in the glutei, and the other in the quadratus lumborum, with the clear solution. It is quite reasonable to suppose that in some of these cases, at all events, and especially in those in which necrosis occurred, absorption of the arsenic was greatly interfered with; yet in the remaining six non-successes treated in this way, there was no necrosis; and six other cases, with the same method, showed better results. I think it is fair to put down eight as the number of non-successes, possibly due in part to the method employed.

Nine cases I have noted as moderate successes, the symptoms either improving very slowly, or the patients leaving the hospital prematurely. These are one, in which it took six weeks for the mucous patches to disappear; three and five, only under observation two weeks; four, in the hospital one week; nine, in the hospital three weeks; ten, in which the interstitial keratitis remained unaffected; twelve, in which the first improvement was not noted till twelve days after the injection; fourteen, in which two injections and six weeks were needed to make the symptoms disappear, and eighteen, which also took six weeks. Of these nine partial successes six got the subscapular emulsion, and two were subsequently operated on; two received the clear solution in the buttocks, and one in the quadratus lumborum muscle.

Frank and gratifying success was achieved in six cases; eight had his mucous patch disappear and his exanthem almost go, though he was only observed two weeks; eleven had his pain in the tongue quickly relieved and many of the ulcerations

healed, though only under observation one week; nineteen showed disappearance of his macular eruption in one week, and of his genital papules in two weeks; twenty-one lost her condylomata in ten days, her skin eruption in nineteen; twenty-two had her eruption and exulcerated mucous patches disappear in two weeks, and twenty-three had her skin and mucous membrane lesions, and her iritis, healed in one month. Some of these results were probably quicker than could be gotten from mercury; but in most of them our judgment was that it was about the same. Of these six best cases three received the subscapular emulsion and three the solution in the quadratus lumborum injection. One of the former (twenty-two) was a necrotic and operated case; and four of the entire five showed marked renal symptoms.

Out of the entire twenty-five cases there is not one that could be classified as an unusual or astonishingly brilliant result. The very best one or two were perhaps quicker than might be expected from mercury; but some of them were slower than we are in the habit of seeing. On the whole, and leaving out of account the necrotic subscapular emulsion cases, in which it may be assumed that arsenical absorption was largely interfered with, we concluded that similar results in a similar series of cases treated with mercury could be regarded only as moderately satisfactory.

General Considerations

It seems probable that with the new drug we have to reckon with the possibility of damage to the kidneys in a certain proportion of cases. How large that proportion is, or how permanent the damage, are some of the many questions that only the observation opportunities of private practice can determine. Ten of our twenty-five cases had renal symptoms, in most instances transitory; but some had them when last seen, and one or two had casts. Similar occurrences under mercury are extremely rare—so rare that we practically never take them into account.

Severe pain seems to be an inevitable feature of the arsenobenzole injection, however administered. This is controllable, of course, by morphine; but I am sure that some of our more sensitive private patients will demand anaesthesia.

Rest in bed under skilled observation for several days or a week I consider an absolute necessity. A preliminary careful physical examination, to determine the absence of possible con-

traindications to the treatment in the form of lesions of the internal organs should never be omitted.

It seems premature for the present to attempt to give the indications for the use of arseno-benzol in syphilis; but it is my opinion that it is not as yet the treatment of choice in the ordinary run of cases. Definite lesions of the internal organs, syphilitic or other, are recognized contraindications, and have so been proclaimed by Ehrlich. On the other hand there are cases, though extremely rare, that are recalcitrant to the mercurial medication of a rational kind; these are subjects for arseno-benzol. And there are cases also in which, for personal or other reasons, haste is necessary, and in which any treatment that offers a chance of relief more quickly and more permanently than the mercurial one should be employed.

Of course the foregoing statements are based on our present knowledge of the drug, which is as yet without data as to the future fate of patients treated with arseno-benzol. If it should turn out that one or two injections, or a whole series of them, will permanently and indubitably cure the disease, then all considerations as to pain, hospital care, etc., will be entirely negligible; and even some degree of danger will be no contraindication. It cannot be said, however, that we have attained that knowledge as yet.

Finally, I may mention incidentally a fact of interest as regards our patients' attitude to the treatment. In our dermatological ward in the City Hospital this fall we had a regular syphilis club. Patients came in attracted by the knowledge that the treatment was given there; they watched all the cases and compared observations. It is a noteworthy fact that four cases there refused reinjection absolutely; one said that "he would not take it if it were offered to him on a golden plate," and the three others declared that they would leave unless they were given mercury.

I think I may venture from the foregoing to formulate certain statements, premising that they are based on a comparatively limited experience.

1. Arseno-benzol is of undoubted efficacy in syphilis of various forms, more especially in early cases, and in mucosal lesions.

2. Its immediate effects may be better, in some cases, than that of mercury; in others it is slower, and less certain. In some cases it fails.

3. It must be used with care, since we are by no means fully informed as to its effects on the kidneys and other internal organs.

4. It should never be given in ambulant or office practice; the patient should be carefully examined before it is administered, and should remain in bed under observation for several days after.

5. It is indicated in especially severe or malignant cases, in cases where mercury has failed, and in other instances in which there are reasons for unusual antiluetic measures.

6. Whilst the luetic symptoms usually recede after one or two doses we are as yet without knowledge as to the permanency of its effects.

154 W. 77TH ST., NEW YORK CITY.

WHEN SHOULD THE GENERAL PRACTITIONER MEASURE THE BLOOD PRESSURE?

Read at the 104th Annual Meeting of the Medical Society of the County of Rensselaer, December 15, 1910.

BY THEODORE C. JANEWAY, M. D.,

Bard Professor of the Practice of Medicine, College of Physicians and Surgeons, Columbia University.

Attending Physician, St. Luke's Hospital and City Hospital, New York.

Mr. President and Gentlemen:

In accepting the invitation to address you, with which you have honored me, I have chosen for my subject an interrogation, to which I shall endeavor to give as full an answer as the time at my disposal will permit. The question, "When shall the general practitioner measure the blood pressure?" is one which I feel sure many of you have asked, and which voices but one special form of a fundamental difference, the difference between the aims of pure and of applied science. Pure science seeks a remote goal, the complete knowledge of the whole realm of phenomena, and must use methods of investigation which are of the highest accuracy obtainable, without thought of their cost in time or money. The individual worker in pure science makes his limited resources serve the limitless aim, by narrowing the field of his investigations to one whose problems can be attacked by the few or many absolutely trustworthy methods he is master of; thus his contribution to the ultimate realization of the aim of science, be it large or small, is real and permanent.

Applied science, on the other hand, strives for immediate practical results. What it attempts is conditioned primarily by the needs to be met. Its ideal is the highest utility, not the highest accuracy. It counts the cost. While the pure chemist may spend weeks of toil and use many dollars worth of material in purifying a new compound for final analysis, the industrial chemist must seek a method which will yield the largest bulk of the desired product, of sufficient purity for practical purposes, with the minimum cost in time and money.

In medicine the same differentiation is evident. The physiologist, the pathologist, the bacteriologist, are obviously workers in pure science. In addition clinical medicine is rapidly developing as a true science, and special clinical investigators are devising increasingly accurate methods for the study of its problems. Such men may, indeed must, limit their field; the general practitioner cannot. Therefore the vital questions for him are, "Which of these new methods shall I use?" and "When shall I use them?"

The first question is easily answered: he must use any method in which he can become reasonably proficient, which does not demand a great expenditure either of time or money for its application, and which gives important diagnostic or prognostic information obtainable in no simpler way. Radiography, for instance, unquestionably is not such a method, and we must employ experts to use it for us. The clinical measurement of blood pressure unquestionably is such a method. When should the general practitioner use it?

First, in every careful examination of the cardio-vascular system. This, in my opinion, should mean for every practitioner, a. The first examination of every new patient; b. the occasional examination for purposes of watching progress in cases of hypertensive cardio-vascular disease and nephritis; and, c. every examination made for the purpose of certifying to the existence of a state of health. Such examinations, of course, include those of applicants for life insurance, of recruits for army, navy, police, fire departments, and so forth, and the increasingly frequent examinations of school boys and others preparatory to competition in athletics. As these three types of careful examination are conducted with different ends in view, it will be well to consider the importance of the blood pressure reading in each of them separately.

a. First examination of a new patient. The examination of a new patient should always be for the purpose of making a complete diagnosis. Even patients suffering from apparently trival ailments may have serious and unsuspected anatomical lesions. Every careful physician knows how frequently a heart murmur is accidently discovered. In my experience it is equally common, in persons past middle life, to discover a wholly unexpected high blood pressure. Without the sphygmomanometer an experienced diagnostician would probably detect the hypertrophied heart and accentuated aortic second sound which accompanies this, but in the emphysematous or rigid thorax of an elderly man, or beneath the highly developed panniculus adiposis of an elderly woman, the detection of these evidences may escape even the expert, how much more therefore the general practitioner. The blood pressure reading is open to no such danger. It can be made in about a minute, and the evidence which it gives is but slightly affected by the personal equation of the observer.

A blood pressure reading of more than 145 mm., before middle life, and of more than 160mm. after, must be considered abnormal. In order to draw any conclusions from such a finding, however, one must have absolutely eliminated all temporary influences tending to raise blood pressure. These are numerous, but, of them all, excitement and apprehension stand out as the pre-eminent causes for confusion in ordinary medical work. It is frequent to find the blood pressure 20 or 30 mm. higher at the first examination than subsequently. For this reason no conclusion should ever be drawn from the results of a single examination, unless the blood pressure is much higher than the figures given, say over 180 mm. On the other hand, the persistent finding of a blood pressure above 160 mm. on repeated examination is equally definite evidence of the existence of arterial hypertension.

Permanent high blood pressure, in the vast majority of cases, is due to chronic nephritis, even though the urine may for long periods be normal. This cannot be too strongly insisted on. Such nephritis, however, may for years, or throughout its entire course, give only cardio-vascular symptoms; in many elderly patients the symptoms are merely those of a mild neurasthenia. Progressive cases in younger adults, with marked polyuria, severe headaches, gastro-intestinal disturbances and ocular changes, are usually diagnosticated without the aid of the sphyg-

momanometer, though equally showing marked hypertension. This is the type in which uraemia is to be feared, as also in the subchronic cases with oedema and anaemia. That hypertensive cardio-vascular disease may exist without underlying chronic nephritis, autopsy evidence proves, Krehl, for instance, having called attention to such cases. Nevertheless they are rare and the cause of the hypertension in them is obscure. Arteriosclerosis, in the light of Marchand's records, and much clinical evidence, cannot be the cause of any marked increase of pressure, though a moderate elevation of systolic pressure may be due to it alone. The recent experimental work of Longcope, who failed to get any permanent rise of blood pressure by narrowing the mesenteric arteries, is further proof in the same direction.

Clinically I believe we should recognize that there are three common causes for insufficient hearts; 1, valvular defects; 2, permanent high blood pressure; and 3, myocardial disease. In the two first the mechanism of compensation is the same and the danger to be guarded against is its failure. The practical value of the discovery of permanent high blood pressure is, therefore, just that of the discovery of a heart murmur. No one to-day would consider a heart murmur, when the lesion was well compensated, cause either for seriously alarming the patient or for instituting immediate drug treatment. On the other hand, no one would decry the careful examination of the heart because the finding of a lesion in a patient without symptoms was not a signal for drugs. We recognize clearly to-day the important duty of the physician to prevent disease, as quite co-ordinate with his responsibility for its cure, and more likely to be successful. The discovery of any evidence of disease in the body should make us take steps to prevent its further development. The discovery of high blood pressure, like the discovery of a valvular defect, gives us the opportunity to safeguard the patient from all those influences which will tend to upset the existing compensation by the heart muscle. For cases of high blood pressure this means the regulation or interdiction of poisons which increase blood pressure or damage the myocardium, of which tobacco is especially important; the regulation of the whole mode of life so as to prevent undue excitement, worry, or nervous strain, and sudden or excessive exertion, which are definitely bad for these patients; the insistence on moderate exercise proportionate to the strength of the heart; the use of massage

and baths where exercise can not be taken; the regulation of the diet and the fluid and salt intake; change to a warm climate in winter; in a word, a scheme of hygienic, dietetic treatment, and not the use of drugs. Since this may involve a serious readjustment of the patient's business and daily life, it is a much more difficult task for the physician than dashing off a prescription, and, for the patient, usually much more irksome than taking even a nauseous dose. It is real therapy, however, of a kind which will come more and more to the fore in the future, and which the Germans speak of as a "Schönung's Therapie," which does not translate well, but may perhaps be called "safe guarding treatment." So much for the use of the sphygmomanometer in the diagnosis of unsuspected disease.

b. In the subsequent examination of cases of hypertensive cardio-vascular disease and nephritis. In the earlier days of clinical blood pressure study, I, among others, felt that the blood pressure instrument might come to have the same importance in the observation of cases of cardio-vascular disease, that the thermometer has in watching the course of acute infections. This, I quite frankly confess, has not proved the case. The reason perhaps is not difficult to find, since almost all of our clinical states of high blood pressure, when once discovered, are permanent; and because the blood pressure is influenced from many more sides than is the temperature curve. There is no question that the patient's symptoms, rather than the blood pressure reading, are our main guide in treatment. Have we not, however, been through a somewhat similar stage in our attitude toward the reading of the thermometer? It is not so long since antipyretics were regularly given to reduce temperature in fever, because the fever could be discovered and the antipyretic was known to reduce it. Now we are just emerging from a similar state of mind with reference to the treatment of high blood pressure by vaso-dilators. I have outlined above the only type of treatment which I consider warranted in hypertensive cardio-vascular disease, where there are no symptoms of importance. Such patients, as many records in my possession demonstrate, may for years live a regulated life in comparative comfort, with blood pressure never below 200 mm. One woman has now had a pressure almost always above 240 mm. and sometimes as much as 300 mm. for six years. It should be clearly recognized that these excessively high figures are readings of systolic blood pres-

sure. They by no means represent an equal rise of the mean blood pressure above the normal. As Russell has suggested, and Dr. Park and myself in some recent work have demonstrated experimentally, tonically contracted arteries may require as much as 30mm. overpressure for the obliteration of the pulse wave within them, due to the increased resistance of their walls. Further, the form of the pulse wave in these arteries is altered, so that the systolic elevation of the pressure is more sudden and extreme. For example, I should imagine roughly that a systolic pressure of 150 mm. might correspond to a mean blood pressure of 120 mm.; a systolic pressure of 200 mm. to a mean pressure of 150 mm.; and a systolic pressure of 250 mm. to a mean pressure of perhaps 170 mm. These, of course, are only guesses, but serve to indicate the point I strongly wish to make. In making observations on blood pressure the practitioner should always have in his mind's eye the picture of the pulse wave in the case under observation. The most marked instance of extreme systolic elevation above the diastolic level is in aortic regurgitation. Here, no systolic reading below 200 mm. should be considered unequivocal evidence of real hypertension.

When serious symptoms, such as marked dyspnoea on exertion, anginal attacks, attacks of paroxysmal dyspnoea or oedema of the lungs, or mild uraemic phenomena, appear, active treatment must be begun. To be intelligent this treatment should be controlled by blood pressure readings, though not directed primarily toward the influencing of the tension. For instance, some patients with hypertension, as the heart becomes insufficient, show a marked fall of blood pressure. For them digitalis is indicated, without vaso-dilators. Others develope cardiac insufficiency with high blood pressure. In such cases digitalis is none the less urgently demanded, but vaso-dilators may usually be wisely added. It is not enough merely to order a certain dose of nitroglycerine, but the effect of the dose upon the individual's blood pressure should be determined. I have often seen patients taking a dose which had no effect whatever on the blood pressure. Whether they do better with an efficient dose of vaso-dilator or not, however, only the effect upon their symptoms can demonstrate. With the more sudden and serious accidents, anginal attacks, and oedema of the lungs, especially, active vaso-dilatation is almost invariably useful, and the dose again may wisely be determined by the blood pressure instrument, 1/200

of a grain sufficing for some patients, while 1/25 or more may be needed for others. A drop of at least 30 mm. should be secured. Prognostically, when high arterial pressure has been known to exist for years, a fall should always be considered presumptive evidence of the onset of heart weakness, and an unfavorable sign. In cases of chronic nephritis, with uraemic manifestations, on the other hand, a sudden rise of blood pressure is often the danger signal of an acute explosion pending.

c. Examinations for certifying to a condition of health. The number of persons whose unsuspected cardiac hypertrophy and high blood pressure are first detected by the sphygmomanometer, are to me a convincing argument for the necessity of a blood pressure reading, before certifying to the existence of a state of health. The life insurance companies are beginning to appreciate this. One large company, under the lead of Dr. Rogers, who has devised an ingenious portable sphygmomanometer, sold under the name of the Tycos, now insists on a blood pressure reading in all examinations for a policy above a certain sum. There is no question in my mind that, before long, this practice will become general. Here it is important that no injustice be done the applicant, because of the effect of excitement at a single examination. The conditions, however, are altogether similar to those governing the pulse rate, and a postponed examination, with a little common sense on the part of the examiner, ought to prevent any serious mistakes. Without the blood pressure instrument, I have in the past seen candidates with advanced cardio-vascular disease and chronic nephritis pass for insurance, and their families collect large policies within a few years.

Second, in obstetrical work. I am convinced that a physician, who undertakes the important duty of caring for a woman through pregnancy and child-birth, should never neglect to watch the blood pressure. The earlier publications of Vaquez and his co-workers, showing that puerperal eclampsia is almost invariably associated with high blood pressure, have received abundant confirmation in subsequent papers, particularly those of Vogeler in this country, and Chirié in France. A pressure of 160 mm. during late pregnancy should always be considered highly suspicious and lead to the same careful and repeated observations that the finding of albuminuria does. A further rise, particularly if rapid, and associated with marked headache or vomiting, should probably be the signal for terminating pregnancy. After delivery, in normal cases, the blood pressure falls promptly to

normal or below. The persistence of high pressure post-partum must always be considered a danger signal, and continued watchfulness should not be relinquished until the blood pressure is normal. I feel strongly that the bulk of obstetricians have not as yet given sufficient attention to this subjeect. I believe it will soon be the custom to make blood pressure observations during pregnancy as frequently as the urine is examined; to make a reading during the early stage of labor, of course between pains; and to make readings subsequent to delivery until the pressure has returned to normal.

Third, other conditions in which a blood pressure reading is occasionally helpful.

a. In the diagnosis of acute abdominal pain. In the diagnosis of the cause of obscure abdominal pains the sphygmomanometer may be helpful. Pal long ago called attention to the striking hypertension that accompanies the gastric crises of tabes and attacks of lead colic. He has insisted that these conditions are both in part vascular crises. This view has been well borne out by the subsequent studies of Heitz and Norero, L. F. Barker, and Hans Curschmann. The latter, in a careful study of abdominal colics, found really high blood pressure only in these two conditions, and considered it a valuable point for differential diagnosis, particularly in the differentiation from biliary or renal colic.

b. In acute infectious disease. My own observations lead me to much the same conclusions as Kurt Weigert announced, as the result of extensive blood pressure studies in acute infections; namely, that for the practical ends of diagnosis and prognosis, and as a guide for treatment, blood pressure readings are not of special value. Most acute infections are associated with a low pressure, but Canby Robinson has recently published a very interesting series of observations on epidemic meningitis, showing that this disease is an exception to the rule, and early in its course, and again at a late stage, shows a rise in blood pressure. In doubtful cases this might be of real value for diagnosis. I feel that, in well equipped hospitals, the blood pressure should be watched in typhoid fever and in pneumonia, but that the general practitioner need not concern himself with it.

c. In psychiatrical cases. The general practitioner is pretty sure to leave psychiatry alone. Should he, however, happen to take a blood pressure reading in such a case, he should know that, in the depressive psychoses, with anxiety, there is usually a

marked elevation; whereas in states of maniacal excitement, with psycho-motor activity, the blood pressure falls.

Fourth, the special opportunity of the general practitioner to contribute to our scientific knowledge of the subject. The clinical study of blood pressure is still in its infancy. Of the real physiological mechanism by which permanent high blood pressure is maintained we know nothing as yet. Of the clinical history of high blood pressure in the individual we know far too little. I am convinced that we shall never begin to realize the diagnostic possibilities of clinical sphygmomanometry, until all of us who practice medicine learn to record the blood pressure of all our patients from time to time, beginning when they are young and well. Then we shall know definitely their individual level of pressure during health, and detect the early variations from it. At present, we can only detect a rise in pressure beyond the highest normal for their age period. With a simple record of occasional examinations accurately and permanently kept for say twenty years, any general practitioner could make a unique contribution to our scientific knowledge of hypertensive cardiovascular disease. In hospitals we see end results only; in a consulting practice, or a dispensary, cross sections of disease at various stages. What is urgently needed now is a collection of complete case records showing the whole panorama from health, through the early latent stages of chronic disease to its final open appearance, its terminal drama, and its lesions studied at autopsy. Such records only you men caring for families year after year can provide. It is your great scientific opportunity.

I have chosen to present this subject to you, as you see, from a very practical point of view. I have not spoken of the theories of adrenal hypersecretion and adrenal insufficiency, nor of the studies on the causation of surgical shock and anaphylaxis, both associated with extreme lowering of blood pressure. Fascinating as these studies are, all is yet in flux, and the wise clinician will wait for physiology and experimental pathology and pharmacology to speak with less uncertain sound, before putting new theories to possibly dangerous and certainly misleading tests on sick human beings. There will always be fools who step in where angels fear to tread, but let us call them by their right name. In a few years much that is obscure to-day may be clear to us all, and particularly in the domain of the internal secretions we may look for discoveries of immense practical significance.

Then the clinical study of blood pressure will assume a far greater importance than I would claim for it to-day. For the present, at least it is a step in the right direction, the substitution of an objective and reasonably accurate physiological method for the cruder tactile impressions of the past generation.

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Editorial

> Whoever was accounted the god of physic, the prince of this science must be by all, I think, allowed to have been Hippocrates, whose writings are the most ancient of any that remain to posterity. He was a great philosopher and naturalist, before he began the study of physic, to which both these are, perhaps, necessary. His rules and methods continued in practice as well as esteem, without any dispute, for many ages, till the time of Galen; and I have heard a great physician say that his aphorisms are still the most certain and uncontrolled of any that science has produced. I will judge but of one, which, in my opinion, has the greatest race and height, both of sense and judgment, that I have read in so few words, and the best expressed: "Ars longa, vita brevis, experientia fallax, occasio præceps, judicium difficile." ("Art is long, life is short, experience deceptive, opportunity sudden, decision difficult.")
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> *Health and Long Life.* SIR WM. TEMPLE, (1628-1699).

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The History of Medicine

The story is told of Sir Walter Raleigh that when a prisoner in The Tower he heard a quarrel outside, and, inquiring afterward of the spectators and participants, received so many inconsistent and irreconcilable versions of the affair that he exclaimed

in despair: "Here am I trying to compile a history of events three thousand years old and I cannot learn the real facts of a dispute taking place within my own hearing!"

Sir Walter's disappointment need not have been so keen, however, for there is a pronounced distinction between history and incidents. History is largely a question of perspective; it is not a simple record of isolated facts, but a critical study of the relations of facts to each other and of their importance in determining the progress or the reverses of peoples and nations. An attempt to limit the history of the Civil War, for instance, to the seventh decade of the nineteenth century would have no value, even though the accumulation of facts were complete. Its perspective is not yet established, and the historian cannot ignore the gradual evolution of the dispute during the preceding half century. In his Farewell Address Washington predicted the dangers arising from local differences, and the great debate between Webster and Hayne, although ostensibly a discussion upon the construction of national highways, was in reality a fervid dispute arising from sectional prejudice and passion so plain as to constitute a prediction of the conflict which was to follow.

Records of the remote past may, therefore, be reviewed, and their relative importance established, although the passing events of the day are ill understood.

There have recently been issued by the Putnams two volumes entitled "The History of Medicine, Philosophical and Critical, from its Origin to the Twentieth Century, by David Allyn Gorton, M. D.," in which the author "has endeavored to give a comprehensive review of the evolution of the art and science of medicine from its beginning, and at the same time to set forth its institutes, or the principles upon which it is founded." This book is really divided into two parts, or may be more exactly described as two books, the first a philosophical history of the origin of medicine, and the second a collection of anecdotes or incidents or biographical sketches.

Little criticism may be made of the first volume, in which are discussed the Mythical Period, the Period of Hippocrates, the Period of Aristotle, the Mediæval Period, and the Period of the Renaissance.

The reader becomes deeply interested in the life of the mythical Esculapius, the customs and practice of the Asclepiadæ, and of Hippocrates, whose race is traced in direct line from the

God of Medicine. Liberal quotations are made from the incomparable observations of Hippocrates, and his appeal to the *vis medicatrix naturæ* stands forth prominently in contrast with the theories and fashions and absurdities of the centuries preceding a modern regeneration of his practice. The distinction between the inherent dynamic power of the human organism favoring always the restoration of health and the theocratic mysticism of the dark ages is clearly and entertainingly shown. Hippocrates called this principle Φύσις, Aristotle called it Ψυχή, and Galen Πνεῦμα, but whatever it was it had nothing in common with the ideas of the fatalists who ascribed every cause and every effect to the divine plan, and under the shibboleth "Thus saith the Lord," violated every principle of health and every decency of religion.

As we pass from the first half of this work to the second there is a sense of disappointment. The second volume records the Period of the Nineteenth Century, and in eleven chapters the progress of medicine and surgery, the era of quackery, and the introduction of numerous fads, as mesmerism and Christian Science, are attempted to be discussed in decades. It is an unfortunate and bewildering plan. The reader is not permitted to follow from step to step the evolution of the great achievements of the last hundred years. He meets in one decade a synopsis of the medical events of that decade and completely loses their relations and their growth. There is much to be said of this interesting chapter of medicine, but it cannot be appreciated without concentration upon each separate department. Properly grounded upon the researches of Tyndall and Pasteur, the whole structure of the germ theory, of asepsis and of antisepsis might be constructed into a history as fascinating as romance. Following this in natural sequence are the wonderful achievements of surgery incident to the principles stated by Lister. The trials and failures, the persistence and the ultimate success of Marion Sims resulted in the practice of gynecology. On the other side the growth of the laboratory and the contributions of bacteriology now offer a field of therapeutics promising to restore the pre-eminence of medicine and to wrest from surgery many of the particular successes which are its modern glory. But this opportunity has been missed by the author, and none of these historic units has been presented with the force to impress itself vividly upon the mind of the reader. Lord Lister,

indeed, is credited with his great discovery, but the honor which might be attributed to him is blurred by the asseveration that the time had come and had he not accomplished his great work some one else would have taken his place. Marion Sims, the father of gynecology, is placed last in a group of specialists, as "simply a master of his art," who won his great fame "by his genius and skill as an operator rather than by his learning, wide knowledge or scholarship."

This failure to discriminate the relative importance of men and events leads one to look with some doubt upon the historical accuracy of the book, and this suspicion is further justified by some serious omissions. The claim of Oliver Wendell Holmes to the adulation of posterity is attributed to the coining of the word "anæsthesia." Nothing is said of the immortal essay on "Puerperal Fever." Such a blot upon civilization as puerperal fever, so repugnant to every sense of fitness, might well hold the earnest attention not only of the investigator but of the philosopher who has the high purpose of correlating the science of medicine with the progress of humanity. Puerperal fever is discussed as an incident to Listerism, but the dramatic opportunity offered by the conquest of this scourge is missed, and the name and tragic history of Semmelweis do not appear. Laennec is accredited with the discovery of auscultation, and this subject is fully treated, but Auenbrugger, the father of percussion, finds no place. On the other hand many facts and theories of passing insignificance, representing ill-advised and superficial efforts, take considerable space and may be regarded as questionable history. Some of these may have had some influence upon the practice of medicine, but others are mere curiosities incidental to the long period of time from the earliest traditions of the human race to the present day. Hahnemannism, in spite of its absurd exaggeration of the infinitesimal, induced much needed consideration of the dangers of polypharmacy and heroic therapeutics, but the practice of osteopathy, the biography of "Crazy Still," and the "raw-meat fad," are not entitled to place in a treatise in which the work of Koch, of Virchow and of Pasteur, and the conquest of the infectious diseases are exploited as the greatest victories of mankind.

Magnetic healers, Churchill's "wonderful" preparation of hypophosphites, the "Movement Cure," the "Anteflexion Cure," and "Graham Bread" supply material for an interesting para-

graph, Dr. Shaw's "Hydropathic Family Physician" and *The Water Cure Journal* are among the very few references to the enormous literature of medicine, to which so much of the scientific accuracy of modern practice may be ascribed.

The alleged history of the care of the insane is a brief recapitulation of the pathological psychology of Hack Tuke, Griesinger and Maudsley. This was a series of philosophical essays of the period when the question of the moral and intellectual functions of the brain occupied the attention of metaphysicians. Pinel's reform at the Charité and the humane movement at the York Retreat are described, but the initial movement in Philadelphia forty years before is not given. The great advances in this department of medicine are omitted. A paragraph stating that in the last century the neglected insane were removed from jails and almshouses to large State asylums, that these asylums were then developed into hospitals, and that at the present day this work has been extended by an elaboration of the scientific departments, would have carried a truer idea than any given.

It is an interesting fact that Benjamin Rush maintained that insanity is not a disease of the brain but of the cerebral arteries, and based his observation on dissections. In the light of recent researches Dr. Rush may be said to have been sustained in this opinion, for arterial degeneration is prominent in advanced cases, and these may be assumed to have afforded the material for post-mortem study. The author's conclusion that Dr. Rush's opportunities were limited may be rejected, for in this, as in many other matters, he was ahead of his day.

Adverse criticism of specialism is an echo of the past. That the specialist "is apt to see things through a restricted point of view" has been true, and mistakes have been made. But these are less frequent now than at the birth of the specialties. Without specialism medicine would remain to-day where it was fifty years ago. The layman of to-day would not seek a general practitioner to extract a cataract, to remove gall-stones, or to perform a capital operation. One man does not make a harness; nor does one man possess the limitless knowledge and the manual training and dexterity to relieve the complicated human organism of every perversion of function and structure to which it may be subject in a lifetime, representing all the contingencies of birth, growth and decline!

Nor is the book without solecisms. The following alleged German phrase is presented as the title of Schwann's great work on Microscopical Researches: "Mikroskopische Untersuchenem über die Uberein Stirmung in der Struktur und dem Wadsthum die Thiere und Pflanzen," and Hippocrates is said not to have been a *cacoethes scribendi!* Thomas Willis is mentioned as having "pointed out a convolution which bears his name, 'The Circle of Willis.'" Stephen Smith, the Nestor of American surgeons, the living example of Metchinkoff's idealization of old age, the survivor of New York's greatest group of humanitarians, after eighty-eight years of individuality, falls under the indifferent printer's rendition as "Steven Smith."

The index is not an index. One looks in vain for the alphabetical arrangement of the names to which prominence is given in the text. These are submerged in long lists which are mere synopses of the different chapters, and the inevitable decade is again elaborated.

Gall's System of Phrenology is treated temperately, and as it deserves, with reservation. But the introduction of Lincoln as an illustration of the fallacy of cranial conformation is unfortunate. "Take, for example, the great Lincoln's head and physiognomy, personal manners, and ungainly walk," writes Dr. Gorton, and proceeds: "The greatness of the man and the sublime goodness of his heart, did not show conspicuously in his head and physiognomy. Many fine traits of his character were undoubtedly concealed in his uncouth exterior which was due to his lack of early culture, and backwoods life." But is this so? What is the standard upon which the physiognomy and unconventional movements of the greatest character of profane history are to be established? Surely not that of the ball-room. Lincoln needs no apologist, but Dr. Gorton may have overlooked the studies of the question at issue. He is justified by popular opinion, for Lincoln has been characterized variously, as "angular," "ungainly," "clumsy," "gaunt," "awkward," "thin," "leggy," "gawky," "gigantic," "solemn-visaged," "beardless clodhopper," "uncouth," "half-clad boor, whose heavy features were flabby, lifeless, and deeply furrowed;" "a homely, lank, long, dried-up, bony-armed man, with leathery face shrivelled and yellow;" "long-limbed, brawny handed, queer-looking old fellow, with prominent features, dull and expressionless;" "rough-looking backwoodsman with a wiry, raw-boned tall frame and ganglion legs." Even the Great War Secretary described

him as the "Original Gorilla," and then, at the close, after most intimate acquaintance, as he sobbed at his death-bed, cried out, in the fulness of his grief: "There lies the greatest ruler of men the world has ever known!"

Dr. Gorton, however, is writing a history, and not a collation of popular views, and to the historian the reader looks for accuracy based upon critical judgment. Of Lincoln Nicolay said "there was neither oddity, eccentricity, awkwardness, or grotesquesness in his face, figure, or movement," and that his "walk was vigorous, elastic, easy, rather quick, firm and dignified." His eyes were "soft, tender, bluish," "patient, loving eyes." "He had perfect naturalness, a native grace which never failed to shine through his words and acts." The matter has been most aptly summarized by an observer who said "He was awkward, but with an elegance that a king might envy and common men despise. He moved with an ease that was in the highest degree impressive, and with a grace of nature that would have become a woman." When the life mask was submitted to the oldest bronze founder in Paris, he exclaimed "What a beautiful face!" And the Lincoln mask "does not lose in character by a comparison with the profile view of Washington."

> "For something of a formless grace
> This moulded outline plays about;
> A pitying flame, beyond our trace,
> Breathes like a spirit, in and out."

No contemporary of Lincoln knew him. He is not known yet. Is his place in history to be determined by Gall's System of Mental Philosophy?

It would seem from a perusal of this book that its author is more learned in philosophy and in cogitation than in the actual practice of medicine. His perspective of the past as he reflects upon its achievements and accomplishments is good, but the events of the present are not established in their true relation to the science and art of medicine. They constitute an ill-arranged group of sketches and incidents without cohesion, and they serve ill to prove an actual advance. There is abundance of them, however, and the author has shown great industry in collecting. Possibly if they were recast and the principles governing them brought out in strong relief, a true history of modern medicine might be obtained, but in their present setting this claim cannot be justified.

Public Health

Edited by Joseph D. Craig, M. D.

Department of Health — Albany, N. Y.

Abstracts of Vital Statistics, January, 1911.

Deaths.

Consumption	30
Typhoid fever	1
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	1
Grippe	9
Diarrhœal diseases	3
Pneumonia	25
Broncho-pneumonia	5
Bright's disease	23
Apoplexy	8
Cancer	9
Accidents and violence	11
Deaths over 70 years	56
Deaths under 1 year	18
Total deaths	208
Death rate	24.48
Death rate less non-residents	20.95

Deaths in Institutions.

	Resident	Non-resident
Albany Hospital	7	9
Child's Hospital	0	2
County House	3	5
Homeopathic Hospital	6	2
Hospital for Incurables	1	0
Little Sisters of the Poor	0	0
Home for the Aged	4	1
Home for the Friendless	1	0
Public places	5	2
St. Margaret's Home	0	0
St. Peter's Hospital	4	6
Austin Maternity Hospital	3	0
Albany Hospital, Tuberculosis Pavilion	3	1
Confederation of Labor	0	0
	37	28

Births	119
Still births	3

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation there were one hundred eighty inspections made, of which fifty-six were of old buildings and one hundred twenty-four of new houses. There were forty-seven iron drains laid, eighteen connections to street sewers, twenty-one tile drains, five urinals, forty-nine cesspools, eighty-nine wash basins, ninety sinks, eighty-one bath-tubs, seventy-six wash trays, one hundred thirty-three tank closets. There were eighty-eight permits issued, of which seventy-six were for plumbing and twelve for building purposes. Fifteen plans were submitted, of which three were for old buildings and twelve for new buildings. Forty-two houses were tested, one with blue or red, and there were forty-one water tests. Fourteen houses were examined on complaint and sixty-six were re-examined. Eight complaints were found to be valid and six without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	3
Scarlet fever	12
Diphtheria and croup	5
Chickenpox	7
Infantile paralysis	2
Measles	1
Consumption	42
Whooping-cough	0
Total	72

Contagious Disease in Relation to Public Schools.

	Reported D.	Reported S. P.	Deaths D.	Deaths S. P.
Public School No. 6	1	....	....	....
Public School No. 17	1	....	....	....
Public School No. 21	1	....	....	....

Number of days quarantine for diphtheria:
Longest.... 31 Shortest..... 6 Average..... 20 4/5
Number of days quarantine for scarlet fever:
Longest.... 36 Shortest..... 30 Average..... 33 1/4
Fumigations:
Houses..... 40 Rooms..... 152

Cases of diphtheria reported	5
Cases of diphtheria in which antitoxin was used	5
Deaths after use of antitoxin	1

Bender Laboratory Report on Tuberculosis.

Positive	18
Negative	34
Failed	0
Total	52

Tuberculosis.

Living cases on record January 1, 1911		361
Reported during January:		
By telephone	0	
By Bender	0	
By card	33	
	33	
Dead cases reported by certificate	19	
		494
Dead cases previously reported	21	
Dead cases not previously reported	10	
Duplicates	0	
Recovered	3	
Removed	0	
Unaccounted for	4	
		38
Living cases on record February 1, 1911		366
Total tuberculosis death certificates filed January		30
Out-of-town cases dying in Albany	0	
Out-of-town cases dying in Albany Hospital	0	
Out-of-town cases dying in County Hospital	2	
		2
Net city tuberculosis deaths		28

Bureau of Pathology.

Bender Laboratory Report on Diphtheria.

Initial positive	4
Initial negative	56
Release positive	10
Release negative	30
Failed	17
Total	117

Test of sputum for tuberculosis:	
Initial positive	25
Initial negative	33
Total	58

MISCELLANEOUS.

Mercantile certificates issued to children	11
Factory certificates issued to children	11
Children's birth records on file	22
Number of written complaints of nuisances	21
Privy vaults	2
Closets	3
Plumbing	7
Other miscellaneous complaints	9
Cases assigned to health physicians	109
Calls made	386
Number of dead animals removed	500

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR JANUARY, 1911.—Number of new cases, 191; classified as follows: Dispensary patients receiving home care, 12; district cases reported by health physicians, 7; charity cases reported by other physicians, 48; moderate income patients, 124; old cases still under treatment, 146; total number of cases under nursing care during month, 337. Classification of diseases for the new cases: Medical, 79; surgical, 8; gynecological, 0; obstetrical under professional care, mothers, 46, infants, 44; eye and ear, 1; skin, 1; infectious diseases in the medical list, 23; removed to hospital, 9; deaths, 12.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; medical students in attendance, 6; Guild nurses in attendance, 5; number of new patients, 6; visits by head obstetrician, 0; visits by attending obstetricians, 0; visits by students, 24; visits by nurses, 31; total number of visits for this department, 55.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,715; for professional supervision of convalescents, 287; total number of visits, 2,002; cases reported to the Guild by four health physicians and forty-four other physicians, graduate nurses 8, and pupil nurses 13 on duty.

Dispensary Report.—Number of clinics held, 91; number of new patients, 138; number of old patients, 392. Classification of clinics: Surgical, 11; nose and throat, 7; eye and ear, 15; medical, 13; gynecological, 8; lung, 14; skin and G. U., 9; stomach, 1; children, 13.

Students' Resolutions on Dr. Macdonald's Death.—At a meeting of the Junior and Senior Classes of the Albany Medical College, held Thursday, January 5, 1911, the following resolutions were adopted: In the death of Dr. Willis G. Macdonald the Albany Medical College has lost one of its most honored teachers, the city one of its most honored citizens, and the nation one of its most eminent surgeons. Regardless of his busy life as a surgeon and citizen he was never unmindful of his duties for the advancement of his chosen profession, and his untiring efforts will always be remembered by those of us who were so fortunate as to receive the benefits of his instruction. *Resolved*, That we, as students, shall endeavor to emulate his principles and follow the path he has so ably opened for us. *Be it Resolved*, That we, as students of the Albany Medical College, do extend to his parents our most sincere sympathy; and be it further *Resolved*, That a copy of these resolutions be sent to his parents and to the Dean of the Albany Medical College; also be recorded in our annual book, "The Skull." Committee: John D. Gulick, Ward H. Millias, Burdette H. Riggs, William H. Mason.

Macdonald Memorial.—Governor John A. Dix, as President of the Executive Committee, has been actively associated with the work to raise funds for the memorial to be erected to Dr. Willis G. Macdonald. Former State Comptroller Martin H. Glynn and Dr. Samuel B. Ward are vice-presidents and Dr. H. L. K. Shaw is secretary, while Mr. McNaughton Miller is the treasurer.

The following editorial is taken from the Albany *Evening Journal* of February 14, 1911:

"Not alone the feeling of affection and esteem that is in the hearts of Albanians for the late Dr. Macdonald, but also civic pride, and particularly the pride that this community justly takes in its educational institutions, should insure generous response for the appeal that is being made for additional subscription to the Macdonald Memorial Fund, which will bring the total up to $100,000, the sum that is hoped to be secured.

"While the laboratory which will be erected and equipped will be a memorial to Willis G. Macdonald, it will also be an important part of the Albany Medical College, and as such it will mark the beginning of realization of the hopes and plans for the enlargement and improvement of that institution.

"And when once a good beginning of anything has been made, progress toward the desired end is easier and more rapid.

"What Albanians can do when they take vigorous hold of anything has been demonstrated many times. It was conspicuously shown in recent years, when the Albany Hospital was lifted out of its narrow confines and established in the new and well equipped buildings in which its usefulness has become so greatly enhanced.

"There is no reason why the public-spirited liberality of Albanians should not be equally responsive in this case, in which the aim is to erect a structure that shall perpetuate the memory of an esteemed and beloved member of the medical profession, who carried into his practice

a degree of philanthropy not surpassed and rarely equaled; and which, moreover, shall serve to increase the facilities for the education and training of those who desire to enter the profession whose highest standard he represented.

"The plan that has been adopted for soliciting subscriptions is stated in the news columns of this issue of the *Evening Journal.* Other details will be published as they develop.

"It is not alone the amount that each contributor will give that will count, but quite as much the number of those who will give what they can. Small donations will be received with as much appreciation as large ones.

"Albany alone has more than 100,000 inhabitants. And there are many thousands in the surrounding territory where the name of Dr. Macdonald is held in loving remembrance. And within this territory there is much wealth. And there are many of moderate means who will gladly give a little.

"There should be no doubt about the success of this enterprise, and realization should be a matter of but a short time."

Macdonald Memorial Fund.—The subscriptions for the Macdonald Memorial Laboratory now aggregate quite a large sum. At a meeting at the office of Secretary Jones, of the Chamber of Commerce, a campaign was arranged to raise the balance of the required amount. It is in part as follows: The students of the Albany Medical College will make a systematic canvass of the city, going from house to house soliciting. They will work under the direction of seventeen of the younger physicians of the city, who will act as captains of the groups into which the students will be divided. They will bear proper letters of credentials and will take the donation of any amount and will give a receipt for the same. Another project will be to write letters to the patients of the late Dr. Macdonald. Dr. Gutmann is chairman of this committee. Another committee, of which Dr. Edgar Vander Veer is chairman, will write letters to physicians throughout the State. Bishop Burke has made the suggestion that an attempt be made to obtain one thousand men who would contribute $100 each, and an effort will be made to secure as many as possible. Before Dr. Macdonald's death he planned a campaign for public subscription for such a laboratory for the Medical College, so the present movement is carrying out the work which death prevented.

The National Association for the Study and Prevention of Tuberculosis.—The Seventh Annual Meeting of the National Association will be held in Denver, June 20th and 21st, 1911.

New York State Hospital for Crippled Children.—The tenth annual report of the year ending September 30, 1910, issued by the New York State Hospital for the care of Crippled and Deformed Children, located at West Haverstraw, New York, states that eighty patients were treated during the year and thirty-three were discharged during that time. Fifty-seven were tuberculosis joints or spine. The hospital is for the poor only. All medical colleges of the State have advisory members. Drs. A. Vander

Veer and S. B. Ward represent Albany. Plans for a new and more extensive building have been prepared and work on the structure will commence immediately.

Medical Society of the County of Schenectady.—The regular meeting of the Society was held at the County Court House, Tuesday, February 14, 1911, at 8:30 p. m. The following papers were presented: "The Etiology and Treatment of Certain Forms of Periodical Headache," by Dr. N. A. Pashayan; "The Subconscious Mind;" Presentation of Specimen by Dr. H. L. Towne, and "A Case of Congenital Stenosis of the Ilium," by Dr. F. van de Bogert.

National Confederation of State Medical and Licensing Boards.—The twenty-first annual convention of these boards will be held at Congress Hotel, Chicago, Ill., on Tuesday, February 28, 1911. One of the subjects contained in the program comprises a symposium on "State Control of Medical Colleges."

New York Skin and Cancer Hospital.—The Governors of the New York Skin and Cancer Hospital announce a course of lectures to be given in the out-patient hall of the Hospital on Wednesday afternoons at 4:15 p. m., from March 1st to April 26th, inclusive. The lectures will be abundantly illustrated by means of cases, models, etc., and will be free to the Medical Profession on the presentation of their professional cards.

Personals.—Dr. Edgar C. Collins (A. M. C. '80) has opened a First Aid Surgery at 342 Main street, Springfield, Mass.

—Dr. Charles W. L. Hacker (A. M. C. '05) has opened an office at 206 State street, Albany, N. Y.

—Dr. Harry Rulison (A. M. C. '05) is now located at 42 Dove street. Albany, N. Y.

—Dr. Edward G. Whipple (A. M. C. '06) has resigned as Superintendent of Seton Hospital, New York, and is now head of the Division on Tuberculosis of the New York State Department of Health, with headquarters at Albany, N. Y.

—Dr. Howard P. Carpenter (A. M. C. '07) is now engaged in practice at Poughkeepsie, New York.

—Dr. Aaron Sobel (A. M. C. '08) has opened an office in Poughkeepsie, N. Y.

—Dr. Milton W. Platt (A. M. C. '08) is now located at Poughkeepsie, N. Y.

—Dr. Lewis W. Burdick (A. M. C. '09), formerly at the Samaritan Hospital, Troy, N. Y., has moved to Maryland, N. Y., where he is now engaged in practice.

—Dr. John B. Burke (A. M. C. '10) has opened an office at Catskill, N. Y.

Deaths.—Dr. Isaac E. Randall (A. M. C. '66) died at his home, Bay City, Michigan, on January 20th, from heart disease, aged 66.

—Dr. Robert H. Neefus (A. M. C. '70), of Dalton, Mass., died February 18, 1910.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Case Histories in Pediatrics. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis, and Treatment of the Most Important Diseases of Infancy and Childhood. By JOHN LOVETT MORSE, A. M., M. D., Assistant Professor of Pediatrics, Harvard Medical, Associate Visiting Physician at the Infant's Hospital and at the Children's Hospital, Boston. W. M. Leonard, Boston, Mass., 1911.

The purpose of this book is well expressed in the title. The idea of teaching medical students in the class room by means of actual case histories originated at the Harvard Medical School ten years ago.

The method is similar to that employed in the law schools. Its application to medicine has proved of great advantage at Harvard both to teachers and student. The author states in his preface that this method of teaching is far superior to recitations, quizzes, and conferences. One of its greatest advantages is that it compels the student to think for himself. It is almost as valuable as the clinical lecture, in which the patient is shown and, except in special instances, is more instructive than the didactic lecture. It is surpassed only by bedside instruction to small groups of students.

This book should inspire every physician who teaches any branch of clinical medicine to follow out the same method with his own cases. The cases are grouped into Diseases of the New Born, Gastro-Intestinal Tract, Nutrition, Infectious Diseases, etc. Each case illustrates a different disease. The discussion of the differential diagnosis is full of practical points which the author has gleaned from his own personal experience.

There is nothing in this volume that savors of the text book. The general practitioner will find many valuable suggestions and useful hints which are found in other books. There is a complete index so that reference to the various diseases can readily be made. H. L. K. S.

Physiology and Pathology of the Semicircular Canals. Being an Excerpt of the Clinical Studies of Dr. Robert Barany, with Notes and Addenda Gathered from the Vienna Clinics. By ADOLPH E. IBERSHOFF, M. D., and a foreword by ROYAL S. COPELAND, A. M., M. D. Paul B. Hoeber, 69 East 59th Street, New York, 1910.

This little book, on a subject which for many years was very obscure, is in many respects the clearest as it is the most concise explanation of the nystagmus tests, and pathology of the semicircular canals.

The clear account of the nystagmus tests particularly is of great value. It is only in recent years that they have been considered such important aids to the aurist in differential diagnosis. Formerly nystagmus was

associated almost entirely, as the authors state, with congenital or early acquired optical defects.

Some excellent tables, intended as a guide in making a differential diagnosis, are given. The subject matter is largely an abstract from Dr. Robert Barany's work, but in such a convenient form that no aurist can afford to be without it. C. F. T.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

The Value of Vertebral Percussion in the Diagnosis of Trachea-Bronchial Lymph Gland Tuberculosis in Childhood (Ueber die Verwertung der Wirbelsäulenperkussion bei der Diagnose der Tracheo-Bronchial drüsentuberkulose in Kindesalter).

Michalowiz *Jahrbuch für Kinderheilkunde, January,* 1910.

A description of the topographic anatomy of the bronchial and tracheal lymph glands forms a valuable introduction to this paper. The technic advised by the author is to have the child seated on a table with the back at the edge and towards the examiner. The back is curved forward with the chin resting on the sternum. The first, fourth and seventh cervical and the twelve dorsal vertebræ are marked with a skin pencil, care being taken that the child is in the same position. The author prefers the use of the finger as a plexímeter. The percussion should be light and it is necessary to map out each separate vertebræ with precision. The use of the finger enables one to recognize changes in the sensation of resistance. The term palpation-percussion is applied to this procedure.

The author bases his paper on twenty-two cases in which he was able to control his clinical examination with radiographs.

The Relation of Cyclical Vomiting in Children to Appendicitis.

Cumston. *American Journal of Obstetrics and Diseases of Women and Children, February,* 1910.

Cyclical vomiting is described and its primary symptoms noted, including its periodicity, occurrence during apparently good health, its rapid involvement of nutrition and general health, and the speedy recovery after the attack has passed. The author then turns his attention to certain secondary symptoms which he regards as very important, but which may be wholly or in part wanting in any particular case. There may be a rise in temperature to thirty-eight or forty degrees C. There may be marked digestive disturbances, loss of appetite and constipation. The liver will be more or less hypertrophied with changes in function. The breath often bears the odor of acetone but investigators differ as

to its origin and relation to cyclical vomiting. The author's personal observation and a number of reported cases have led him to conclude that latent and chronic appendicitis is sometimes the cause of cyclical vomiting. The nature of the symptoms are such that physicians would hardly examine the region of the appendix for a cause. In some instances abdominal pain was complained of, and the dyspeptic disturbances were such as to leave no doubt that there was chronic appendicitis. It is an important fact, too, that in those cases where the appendix was removed, cyclical vomiting did not return. The manner of extension of the infection of the appendix to the digestive tract is explained by continuity of the parts or adhesion of the omentum to the appendix or the stomach. The author claims no more than that chronic appendicitis may be the cause of cyclical vomiting and that the appendix should always be carefully examined in such cases.

Pothology of the Thymus Gland (Pathologie du Thymus).

MARCAN. *Archives de Médécine des Enfants, November,* 1910.

The thymus is a glandular organ composed of two lobes closely joined at the median line. It is situated in the anterior mediastinum above the pericardium and large vessels at the base of the heart and between the anterior lobes of the lungs. In fœtal life it is composed of epithelial tissue which gradually is transferred into lymphoid tissue and at the time of birth its structure is that of a hœmo-lymphatic gland. The so-called "Hassal Corpuscles" are believed by some histologists to be the cells of obliterated blood vessels. The gland increases slowly in size up to the fourth year and then gradually becomes smaller and is completely atrophied by the twelfth year. Its period of greatest activity is during the last months of fœtal life and the first few years of extra-uterine life. The function of the gland is obscure and it probably has an internal secretion.

The weight at birth is from three to eight grammes, and at one year from five to eight grammes. The author considers a weight of fifteen grammes or over a pathologic state.

Simple hyperplasia of the thymus is found in acute and chronic infections. It is often enlarged in rickets and in a condition closely allied with rickets and described by Paltauf as "lymphatico-thymique."

It is also enlarged in certain morbid conditions associated with lesions of the ductless glands such as simple goitre, myxœdema, acromegaly, Addison's disease, tetany, etc.

Hyperplasia of the thymus is often associated with congenital malformations of the heart.

Atrophy of the thymus is found in cases of malnutrition and marasumus and as a result of long-continued sickness. In these cases the gland does not weigh more than two grammes and is hard and fibrous with dilated blood vessels. The theory that atrophy of this gland is the cause of marasmus is not well founded as in these cases the other

glands and certain organs are also atrophied. The atrophy is the effect of the murasmus not the cause.

Abscess of the thymus has been found in septicæmia.

Tuberculosis of the thymus may be either in the miliary or caseous form.

Syphilis is detected by the arteritis and sclerosis, rarely by gumma. There is often an enormous proliferation of the epithelioid cells which may break down in the center, forming small cysts.

Various tumors and new growths of the thymus have been reported, the most common of which are lympho-sarcoma and fibro-sarcomas.

Lympho-sarcoma of the thymus causes a peculiar condition of the muscles called myasthenia gravis.

Simple and dermoid cysts of the thymus have been reported.

Rocaz had a case of lymphoma of the thymus in a four-year child in which the tumor weighed two hundred grammes.

Congenital absence of the thymus sometimes occurs in idiots and epileptics.

Hypertrophy of the thymus may cause two distinct sets of symptoms, those dependent on its mechanical pressure on the trachea and neighboring organs and those due to a disturbance of its secretion.

The detection of an enlarged thymus is sometimes possible by percussion. Some authors value highly the use of radioscopy in making a diagnosis of hyperplasia of the thymus.

The symptoms of compression are dyspnœa and cyanosis.

The dyspnœa first appears in early infancy and constitutes a form of the so-called congenital stridor of the new born. It is not constant and there are periods of normal respiration. It is both inspiratory and expiratory.

Attacks of paroxysmal dyspnœa due to enlarged thymus may be fatal. Hyperextension of the head, as for instance when examining the throat, may produce a fatal attack.

The enlarged thymus may not only compress the large blood vessels and trachea but also the nerves.

Sudden death associated with enlarged thymus is not uncommon. This takes place where there is no pressure exerted on the vessels or nerves and where there has been no attack of dyspnœa. It may occur in surgical anæsthesia no matter what anæsthetic is used.

In nursing infants it is not uncommon, and after sudden immersion in cold water, examination of the throat, opening a retro-pharyngeal abscess, etc., it has been the only abnormal condition found at autopsy.

Four clinical forms of hypertrophy of the thymus are described, the latent form, the dyspnœic form, the cyanotic form and the syncopcal form.

In the latent form the enlarged thymus does not produce any symptoms and is only recognized at autopsy.

The differential diagnosis of the dyspnœic form is important. Congenital stridor due to laryngeal trouble is exclusively inspiratory in character. The aryteno-epiglotteal folds vibrate over the laryngeal orifice

during inspiration constricting the size of the opening, while during expiration there is no obstruction.

Pressure of enlarged bronchial glands on the trachea might produce symptoms of dyspnœa. Paralysis of the dilators of the glottis can cause inspiratory dyspnœa.

Adenoids in the new-born cause a peculiar form of nasal respiration with a coarse, loud inspiratory gurgle. This is more intense at night during sleep.

The cyanotic form is characterized by turgescence of the veins of the neck and face, bulging of the large fontanelle and a tendency to syncopy.

The syncopal form comprises the cases of sudden death from syncopy without any previous symptoms.

The treatment of atrophy of the thymus is to administer the extract of the gland. The treatment of hyertrophy depends on its cause.

If due to hyperplasia of the lymphoid tissue small doses of adrenal extract may have favorable results.

The Roentgen ray has a very marked effect in these cases and is to be recommended. Intubation with a long tracheal tube and surgical exterpation are employed in very serious cases.

The Treatment of Enuresis by Re-education.

Charles Herrman. *Archives of Pediatrics, August,* 1910.

Dr. Herrman noted some time ago that enuresis was frequently associate with tic among the members of a family. On the supposition that the cause might be similar he has treated the disorder on the same principle.

The re-education treatment of tics consists in having the patient perform voluntarily a number of times muscular action which he performs involuntarily and unnecessarily; that is the so-called method of conscious repetition of Brissaud. For example, if the patient has a twitching of the eyelids the exercises consist of voluntarily opening and closing the eyes a certain number of times.

Applying this method to the treatment of involuntary micturition he has had the patient urinate at regular stated times, but every time he urinates he is directed to void a little, say two drams, and then void two drams more and stop, and so on until the bladder is emptied. In this way he exercises the mechanism which controls urination; he trains and educates himself in the voluntary execution of the act. After this has been done two or three times under the direction of the physician the patient can carry it out himself.

ALBANY
MEDICAL ANNALS

Original Communications

WHAT IS PSYCHOTHERAPY?

Read before the Medical Society of the County of Schenectady, January 19, 1910.

BY N. A. PASHAYAN, M. D.,
Schenectady, N. Y.

The word psychotherapy is of comparatively recent coinage but one has only to glance through the daily press to realize what an engaging topic it has become. This widespread interest is in a great measure due to the efforts put forth by the adherents of the so-called "Emmanuel Movement," which was launched a few years ago in Boston and from there it spread like wild fire throughout the United States. What the significance of this assumption of the healing art by the clergy may be has been discussed by men inside and outside of the medical profession; by some it has been extolled to the skies and by others it has been condemned and ridiculed with much acrimony. Two of the strongest pleas advanced by Worcester and his associates, which incidentally form the *raison d'etre* of this propaganda, are to the effect that the psychoneuroses have not received the proper attention from the medical profession they deserve because the physicians as a class are not sufficiently grounded in psychological studies and therefore fail to treat them successfully. Secondly: What the Emmanuelists attempt to do is to treat only those cases that are purely functional in nature and have been so diagnosticated by competent neurologists. In other words, it is in alliance and with the co-operation of physicians that their healing practice is carried out.

As the object of this paper is not to criticise Worcesterism we may pass into a brief consideration of what rational psychotherapy is, what are some of the approved methods as practised by men of our profession and to indicate the uses and the indications of each method.

Psychotherapy means the treatment of disease through the influence of the mind and although the word is new the practice is as old as mankind. The effect of the mind over the body has been recognized from time immemorial and the cure of disease through pilgrimage into shrines and in contact with the relics of saints has been practiced in all ages. It is hardly necessary to remind those actively engaged in the practice of medicine how much hope and courage are conveyed by the sympathetic attitude of the physician and thereby the patient's recovery hastened. It must be admitted, however, that there still persists some disclination in the mind of the profession at large to recognize mental therapeutics as a distinct procedure or method of treatment, and this probably is due to the prevalent misconception that psychotherapy is synonymous with hypnotism or some modification of it. It can be safely asserted that hypnotism forms only the last chapter in rational psychotherapeutics and should never be resorted to unless all other means have completely failed. There have been evolved and perfected more scientific procedures that appeal to the mind and exert their influence through this channel yet are altogether free from the objectionable features of hypnotism. There can be no denial that in hypnosis we have a most potent power that could be utilized to great advantage, but its concomitant dangers to the patient and physician alike are of too serious a nature to permit its indiscriminate use.

There are two forms of suggestibility; one is normal and pertains to all mankind. The other is pathological which obtains only in certain morbid states. It is through the normal suggestibility that men adjust their differences and adapt themselves to their surroundings. Rational psychotherapy adopts this normal avenue for its field of operation while hypnotism exerts its influence through the pathological.

Of these scientific methods the first to be described is that of Paul Dubois or what is known as the method of persuasion and re-education. It aims to appeal to the reason and judgment of the patient and attempts to inculcate a new viewpoint and through logic and conviction to gain the desired end. A diseased idea is displaced and a healthy one substituted not by mere suggestion but through the conscious co-operation of the patient. It is the method of choice in dealing with the intellectual and cultured class that make up the bulk of the psychasthenics. In

the way of illustration the following case may be recited. A man, aged 36, enjoying excellent physical health had an estrangement with a young lady to whom he had been engaged for seven years. Following her marriage to another man the patient became downhearted, did not sleep well and felt "strange." Soon he noticed that often he would waste considerable time in debating as to what he should wear and hesitate in transacting the routine affairs of every-day life. One morning while engaged in reading the daily paper his glance fell over the word "money." Immediately he began to question if it was spelled correctly. He could read no further nor divert his attention into another topic. On arriving at his office he consulted a dictionary to reassure himself that there was no mistake in the orthography of the word but all to no avail. For nearly an hour the doubt persisted in tormenting him until he became tremulous with intense agitation and his entire body was bathed in perspiration. Following this experience he ceased reading the daily papers, but then other trifles began to plunge him into the same dilemma, such as if the signs in the stores were correct, if he were not mistaken in the identity of his friends. The patient was fully cognizant of the fatuity of the entire affair, but felt absolutely helpless to free himself from their grip. With such a case it is evident pure medicinal treatment could accomplish very little, nor the intelligence of the patient would permit simple suggestions. The plan adopted was: First to make a careful physical examination and feel certain that there was no organic trouble that might remotely serve as a causative factor. In the second place, he was advised not to attempt to overcome his doubts when they were in full force upon him, but take a passive attitude and look upon them with as much indifference as possible. Thirdly: While free from these attacks not to permit himself to dwell upon them nor stand in fear or anticipation of them. To anticipate these doubts, it was explained to him, was the surest way to precipitate them, while indifference would serve to mitigate their force. At the end of a few weeks the attacks became less frequent and also less tyrannical so that eventually he made a complete recovery and has remained well since.

A second method of psychotherapy is that of Freud. Formerly he advocated a somewhat different plan under the name of "Catharsis," but lately he has pushed to the foreground his technique of "Psycho-Analysis." Freud's contributions to psy-

chology have been of more than usual value and one has to read at least one of his works in order to appreciate his standpoint. He maintains that hysteria is the result of some moral shock, particularly affecting the sexual life of a person, which shock does not find its outward expression or emotional reaction but is suppressed and as a disagreeable experience forgotten. This suppressed and apparently forgotten idea, however, brings about a dissociation of the patient's ego with the resulting multiform manifestations of the disease. Could we get hold of this submerged idea and bring it within the sphere of normal consciousness, it would lead into a re-association of the ego and the disease would be eradicated.

By careful study of numerous cases he has ascertained that these hidden ideas tend to reappear in the dreams of the patient and by analysis of the dream contents he has succeeded in dislodging the mental parasite. Again during abstraction or periods of absent-mindedness the stream of thought is particularly apt to be governed by the forgotten experience and by questioning the patient unexpectedly while in an abstracted mood of what she was thinking at that very moment, certain facts have been discovered of which no trace was retained in normal consciousness. With these data on hand Freud proceeds to revive the original unpleasant experience and encourage their full emotional reaction, and thereby remove the disturbing mental parasite. This method requires much patience, skill and careful scrutiny but is the most efficient and certain way of treating obstinate cases of hysteria.

A third method is Brun's. It consists in neglecting the patient's complaints or surprise the patient by a sudden command or by the application of electricity. Its utility is limited to cases where only isolated symptoms are to be overcome such as monoplegias, aphonia, etc. It is especially suited to children.

These three methods possess essential differences in their technique and each has its field of usefulness and limitation. Reeducation is applicable to cases of psychasthenia, psychogenic forms of neurasthenia and perhaps also those of psychopathy. Hysteria is best treated with Freud's psycho-analysis while Brun's method works satisfactorily in the mono-symptoms of the credulous and children.

Scientific psychotherapy is only at its infancy and so far its scope has not gone far beyond the treatment of so-called func-

tional nervous diseases. But evidence is gradually accumulating that a long and hopeless list of organic diseases are not altogether beyond its pale of utility; Fraenkel's method of re-education in tabes dorsalis is a good illustration of this fact. Divested of "stage-setting" and mysticism in psychotherapy we have a measure of great value and of still greater promise for the future.

THE SURGICAL TREATMENT OF GOITER.

Read before the Medical Society of the County of Schenectady, May 18, 1910.

By E. MacD. STANTON, M. D.,
Schenectady, N. Y.

Goiters may demand treatment either as the result of the increase in size of thyroid or because of an over-production of the internal secretion of the gland. In a considerable percentage of cases both the enlargement of the gland and the over-production of internal secretion are factors demanding attention in the same patient.

Enlargements of the thyroid, unaccompanied by hypersecretion (hyperthroidism), may be unsightly or inconvenient to the patient, or the enlarged gland may so press upon neighboring structures as to interfere with the functions of one or more of these structures. The organs most frequently interfered with in this way are the trachea, recurrent laryngeal nerve, the great vessels of the neck and the oesophagus.

The over-production of the internal secretion of the gland produces a group of associated symptoms, usually designated exophthalmic goiter, Basedow's disease or Graves' disease. However, as usage has limited the above terms to certain conceptions of the disease, based largely upon an inadequate knowledge of the causative factor, the terms hyperthyroidism (Mayo) or thyrotoxicosis (Kocher) should come into general use as appropriate names for the symptom complex.

Hyperthyroidism is characterized clinically by the presence of one or more of the following symptoms: Tachycardia, tremor, psychic and bodily unrest and irritability, exophthalmos with its accompanying eye-lid symptoms, sweating, gastro-intestinal crises and great lassitude, usually accompanied by demonstrable enlargement of the thyroid gland. Hyperthyroidism may be of all

grades of severity from that producing only a slight tachycardia, tremor or nervousness to that of a fatal toxemia. It is a fact, however, that even in the milder grades it is a most distressing condition from which the patients urgently demand relief.

Indications for Operation.

Evidence showing that operative treatment is by far the most satisfactory method of curing goiters, both of the simple type and those accompanied by hyperthyroidism has very rapidly accumulated during the past few years. Probably the only exceptions are found in the simple goiters which commonly occur in girls at puberty. This class of goiters rarely reach an excessive size and, unless there be an encapsulated growth in the gland itself, they usually subside, in the course of a few months or years, even without treatment.

In competent hands, the mortality of operative interference in simple goiter is less than one per cent., and the final results are excellent. In the presence of hyperthyroidism the mortality is considerably higher, but this increased mortality occurs in a class of cases in which relief is most urgently demanded and here also operative treatment, properly timed and executed, remains the safest and most satisfactory form of treatment.

I believe therefore that we are not stating the facts too strongly when we say that the indications for operation are simply the presence of a tumor of the thyroid, which has not yet yielded to a fair trial of medical treatment and which causes enough inconvenience or discomfort to the patient to warrant the temporary disability and expense incident to the operation. This is because operative treatment is almost ideally safe and satisfactory in those cases in which the indications for operation are of moderate urgency, and as we approach the cases accompanied by a distinct operative mortality, the indications are correspondingly increased.

Operative Mortality.

The mortality in operations for simple goiter is, in competent hands, as low as that in any other major work in surgery. Kocher had but three deaths in 1,000 operations, C. N. Mayo four in 574 operations, Crile one in 142, and many other operators report equally good results. In cases with well-defined hyperthyroidism, Kocher and C. H. Mayo have each had a mortality of approximately five per cent., although their more recent series

of cases have shown an even lower death rate. Probably the most important factor which has contributed to a reduction in the mortality in this class of cases, during the last few years, has been a more careful selection of the time for operation. Patients suffering from acute exacerbations or from very severe grades of intoxication, should be treated by rest in bed and appropriate medication until the conditions become more favorable for operation.

The final standing of the operative treatment of goiter must ultimately depend upon the dangers of the operative interference and the final results obtained as to the cure. It is therefore necessary to arrive at a correct estimate of the operative mortality, and for this purpose statistics of large groups of cases may be decidedly misleading unless very carefully analyzed. The truth is probably approximately as follows:

1st. Simple goiters without hyperthyroidism, occurring in individuals otherwise healthy should give practically no mortality provided the work is done by one qualified to undertake it.

2nd. Simple goiters occurring in individuals whose general condition is such as to make them bad risks for any surgical procedures will give an operative mortality corresponding favorably with that of any other major operative work undertaken under similar conditions.

3rd. The presence of hyperthyroidism adds a distinct element of danger amounting at present in cases of average severity to about four per cent. increase in the operative mortality.

4th. Cases of severe hyperthyroidism and those complicated by secondary degenerative changes of the heart and other organs and especially those cases having an irregular pulse tension are bad surgical risks. This is the class of cases which were formerly referred to the surgeon as a last resort, and in the early days of goiter surgery constituted a large percentage of the cases operated and the resulting high mortality was charged against the operative treatment. By patiently waiting for periods of temporary improvement and by careful preliminary medical treatment many of these bad surgical risks may be finally operated at a time when the danger is very greatly lessened. Furthermore it is not necessary that these patients be subjected to the dangers of the radical operation. Simple ligation of the superior thyroid arteries is easy of execution and accompanied

by very little danger and is usually followed by sufficient improvement to allow a complete operation at a later period.

Ultimate Results.

The ultimate results obtained by the operative removal of simple goiters are practically ideal. In order to insure a sufficient quantity of functionating thyroid tissue, it is often necessary to leave a rather large portion of the lobe opposite to the one resected. This may cause the patient some mental anxiety for a time, but it is the rule for the remaining lobe to subsequently shrink to approximately normal size.

In cases of hyperthyroidism, Kocher reports 85 per cent. cured and the majority of the remaining 15 per cent. greatly benefited. C. H. Mayo reports 70 per cent. completely cured and 19 per cent. improved, 5.8 per cent. slightly improved, and 5.2 per cent. not improved.

Other operators report practically identical results.

It seems therefore that we may safely estimate that at least 80 per cent. of cases with hyperthyroidism may be relieved of all symptoms except possibly the exophthalmos, that an additional 10 per cent. will be greatly improved and that about 10 per cent. will be unimproved or require further operative interference.

One fact, which must never be lost sight of, is that those cases complicated by cardiac dilatation and other organic lesions, the result of the hyperthyroidism, often require a long period of time in order to reach full recovery. Such complicating lesions in a few cases may never be completely repaired, but this is simply an argument for appropriate early treatment. The exophthalmos is often one of the latest symptoms to disappear.

Post Operative Hyperthyroidism.

The increased operative risk in the presence of hyperthyroidism is due almost entirely to the acute exacerbation of the intoxication which usually follows a few hours after the operation and may be of such severity as to prove rapidly fatal. The factors which are the immediate cause of this post-operative hyperthyroidism are by no means satisfactorily understood.

Operations on organs other than the thyroid gland in acute hyperthyroidism are as dangerous as those upon the gland itself. Simple accidents may be followed by fatal hyperthyroidism.

Even psychic excitations, such as the fear of operation may cause symptoms quite as severe as though operation had actually been performed. It is quite evident, therefore, that the conception of post-operative hyperthyroidism as being due to the mechanical squeezing of toxins into the circulation during the operation, is at best only a partial explanation. Crile has shown that dogs suffering from exophthalmic goiter, when frightened, show marked exacerbation of symptoms beginning about six hours after the fright and corresponding in all essentials to post-operative hyperthyroidism. Furthermore, if these dogs be anæsthetized in the ordinary way, allowing them to become greatly excited, they later develop very marked hyperthyroidism. If, however, a preliminary injection of morphine be given and the dog is so anæsthetized that he does not become frightened, no hyperthyroidism develops. Crile therefore believes that the most powerful factor producing hyperthyroidism is psychic excitation and that post-operative hyperthyroidism is chiefly the result of the patient's fright before and during anæsthesia. He therefore has his anæsthetist give his patients "inhalation treatments" with ether on a mask for several days, or until they become thoroughly accustomed to the procedure then, some day, without the patient's knowledge the "inhalation treatment" is pushed to anæsthesia and the patient operated without realizing it. By this "stealing" the gland, Crile claims to have largely eliminated post-operative hyperthyroidism.

Operative Technics.

The intimate relationship of the thyroid to such structures as the œsophagus trachea, great vessels of the neck and recurrent laryngeal nerves, together with the extreme vascularity of the gland, has always caused surgeons to have more than ordinary respect for goiter operations. There are, however, few more definitely anatomic operations in surgery than the modern operation for the excision of one lobe of the thyroid; certainly there are none which are more dependent for success upon the accurate execution of every detail, from the beginning of the anæsthetic until the completion of the operation. When properly planned and executed, the operation is seldom really difficult, and yet the least slip is almost sure to lead to trouble, which may assume alarming proportions at any moment. Hemorrhage always obscures the operative field and can only be avoided by immediate

and accurate clamping of each bleeding point as the operation progresses. With proper attention to hæmostasis, the operation is almost bloodless and each step may be carried out in plain view and with utmost precision.

The Anaesthetic.

Some operators still prefer cocaine but ether is undoubtedly the anæsthetic of choice in most cases. Provided the patient can be given the anæsthetic without being frightened, no ill effects are produced by the ether, and with the head up position it is usually not necessary to give much, if any, ether, after the beginning of the operation. Whatever the anæsthetics employed, every precaution should be taken not to frighten or excite the patient. A hypodermic of morphine and atropine should be given twenty minutes before taking the patient to the operating room.

Position of the Patient.

The patient should be placed upon the table in the so-called reversed Trendelenberg position, with the head elevated at an angle of about 35 degrees. This very greatly reduces the venous bleeding and also lessens the amount of ether necessary to keep the patient anæsthetized.

The tumor itself is made more accessible by placing a roll under the neck, or by the use of some special elevating attachment fixed to the table. An equally important step is that of so fastening the arms as to draw down the shoulder and clavicle and thus give better access to the lower poles of the thyroid.

Incision and Dissection.

The skin incision should be the transverse or collar incision of Kocher, crossing the neck a little above the lower border of the tumor with either end of the incision curved slightly upward. This incision includes the platyma myoides and subcutaneous tissues down to the deep fascia and muscles overlying the gland. A flap is now dissected upward, freely exposing the muscles covering the thyroid—namely the sterno (hyoid), the sterno-thyroid and the inner portions of the sterno-mastoid and omohyoid.

Next, the deep fascia overlying the gland is split vertically from the thyroid cartilage downward as far as necessary to give free access to the thyroid. This at once exposes the gland with its true capsule, recognized by the large blood vessels which it contains.

The sterno hyoid and sterno-thyroid muscles should next be divided on the side from which the lobe is to be removed. This is best accomplished by passing a Kocher director beneath each muscle, double clamping the muscle and cutting between the clamps, the latter serving as retractors, when the muscles are turned aside. The muscle section should be made as high up as possible, in order to avoid injuring the nerve supply to the muscles. The gland may now be freely exposed, anteriorly and laterally, by gently brushing back the external fibrous capsule of Kocher.

With all hemorrhage carefully controlled up to this point, we are ready to begin the excision of the gland itself. The key to the situation at this stage is the superior thyroid artery. This is reached by drawing down the cornua of the gland, while at the same time the overlying muscles are carefully pushed back until the apex of the cornua is reached. The superior thyroid is now double clamped and ligated just as it enters the gland. Great care should be exercised not to include any muscle fibres in this ligature, as nearly all secondary hemorrhages in goiter operations come from the slipping of the ligature on the superior thyroid, and this acident is usually caused by including some muscle fibres in the ligature which is pulled off as the patient struggles, when coming out of the anæsthetic.

While dealing with the superior thyroid, we are well above the recurrent laryngeal which dips beneath the inferior constrictor muscle of the pharynx at the level of the cricoid cartilage. Likewise there is little danger of injuring the parathroids, thus it is better not to attempt to begin working inside the true capsule, until the dissection is carried below the level of the cricoid cartilage.

The next step in the operation is the control of the blood supply from the inferior thyroid artery. In emergencies, this may be done at once by pulling the gland forward and upward, and clamping the vessel just before it enters the gland, but owing to the close proximity of the recurrent laryngeal nerve and the presence of the parathyroids in the capsule, it is far safer to do an intra-capsular enucleation of the gland, below the level of the cricroid cartilage, which necessitates the ligation of many small branches of the inferior thyroid instead of the main trunk. This is, however, easily accomplished, if one remembers that the chief branches run in the capsule of the gland, where they may be caught, before the capsule itself is incised. After these ves-

sels are clamped, the dissection is continued towards the median line, always working well within the true capsule of the gland, out of the reach of the recurrent laryngeal and parathyroids. As the median line is approached, great care must be exercised not to injure the trachea; but this structure is also safe, provided we keep within the capsule.

Except in very large diffuse goiters, it is seldom necessary to resect a portion of the opposite lobe. Hemorrhage, at the time of dividing the isthmus, is easily controlled by first catching the larger vessels in the capsule and then crushing the gland tissue with strong forceps.

Pulling on the partially excised lobe, before the tracheal attachments are loosened, may cause the isthmus to be pressed backward against the trachea and thus interfere seriously with breathing. If we keep this point in mind, it is usually easy to avoid the traction which causes compression of the trachea, but in exceptional cases it may be necessary to complete the dissection in the region of the isthmus, before attempting to pull forward the lateral lobe.

At the completion of the operation all clamped vessels must be ligated, after which the capsule may be stitched over the stump of the gland. The cavity remaining after the removal of the lobe should always be drained. This is best accomplished by using a simple, soft rubber tube, but if oozing be present, gauze packing may be required. The tube should be removed on the second day, and if gauze be used, it should be removed by the fourth day.

In closing the wound the divided muscles and deep fascia must be carefully sutured, and in closing the skin incision, care must be taken to so place the sutures that they control the tension caused by the contraction of the playsma myoides.

The above description has had to do with the formal incision of one lobe of the gland.

It may be stated that, almost without exception, all globular enlargements, confined chiefly to one portion of the gland, are due to the growth within the thyroid of a definitely circumscribed tumor, which may be enucleated by incising the gland over the tumor down to the capsule of the tumor itself and shelling out the encapsulated mass. Hemorrhage, during this procedure, comes chiefly from the incised capsule of the thyroid, and may be controlled by properly applied clamps and tempo-

rarily if necessary, by pulling upward on the gland itself. By removing encapsulated tumors in this way, almost none of the functionating tissue of the gland is disturbed. The cavity left after the removal of the tumor should be closed by a continuous lock stitch of fine catgut.

Ligation of the superior thyroid vessels is accomplished as follows: A transverse incision about three inches long is made through the skin, platysma and fatty tissues at the level of the central part of the thyroid cartilage. Blunt dissection now allows the sterno-mastoid to be tracted laterally exposing the omohyoid, which is retracted upward and inward toward the midline. Beneath this muscle is the upper pole of the gland with the superior thyroid artery and vein. A silk or linen ligature should now be passed around the upper pole of the gland and tied so as to include a portion of the gland itself. This is far better than ligating the artery, because if the branches rather than the main trunk are ligated, subsequent restoration of circulation by means of anastomosing branches is much less liable to occur. The wound is closed without drainage.

The following table is a summary of the cases operated by the writer during the past three years. We have had no operative mortality:

SUMMARY OF OPERATIVE RESULTS

Case	Sex	Age	Pathology	Symptoms	Operation	End Result
1	F	16	Large, diffuse, cystic goiter.....	Tumor. Breathing obstructed, hypothyroidism, dull mental condition.	Excised right lobe and third of left lobe.	Tumor cured, except small mass, region left lobe. Mental condition much improved.
2	F	36	Medium sized goiter with excessive cellular hyperplasia.	Tumor. Tachycardia, tremor, nervousness, slight exophthalmos.	Excised right lobe...	Cured.
3	F	23	Encapsulated adenoma, right lobe.	Tumor. Tachycardia, slight exophthalmos complicated by typical hysteria.	Excised adenoma and part of right lobe.	Thyroid symptoms cured. Hysteria not benefited.
4	F	40	Diffuse enlargement with cellular hyperplasia.	Typical Basedow's of severe grade, Pulse 130 to 180.	Excised right and part of left lobe.	Cured. Perfect result. Pulse 80 at end of week. Took a year for exophthalmos to disappear.
5	F	22	No tumor. Thyroid microscopically normal.	Pulse 110–130, tremor, slight exophthalmas, very nervous. Gastro-intestinal symptoms. Diagnosis doubtful.	Excised right lobe...	No change in symptoms.
6	F	48	Large colloid with moderate cellular hyperplasia.	Tumor. Cough, slight exophthalmas, very nervous.	Excised right lobe...	Cured.
7	F	26	Diffuse colloid goiter.....	Tumor. Excessively nervous, moderate hyperthroidism.	Excised right lobe...	Cured.
8	F	36	Lange uncapsulated adenoma. About 10 c.m. in diameter.	Lange pendulous tumor.....	Excised uncapsulated tumor.	Cured.
9	F	33	Diffuse enlargement with marked cellular hyperplasia.	Typical Basedow's. Pulse 130 and marked exophthalmos, wildly nervous.	Excised right and and part of left lobe.	Cured. Great improvement at end of a week, but final recovery slow owing secondary cardiac conditions. Now in splendid condition.
10	F	19	Vascular colloid.....	Tumor. Exophthalmos. Pulse 120, too nervous to work.	Excised right lobe...	Greatly improved, but still subject to exacerbations of hyperthyroidism. Unable to work steadily. Reoperated and half of left lobe removed. Uneventful recovery.
11	F	19	Medium sized colloid.....	Tumor. Cough, difficult breathing, voice changes.	Excised right lobe...	Recovered. Too recent for end result.

CARCINOMA OF THE STOMACH, GALL-BLADDER, PANCREAS AND DUCTS.

Read before the Schenectady Surgical Club, February 26, 1910.

By WILLIAM P. FAUST, M. D.,
Schenectady, N. Y.

This paper will be limited principally to a review of the diagnosis and treatment of cancer of the stomach, gall-bladder, pancreas and ducts. Probably in no other field has surgery replaced medicine with better results than in the treatment of cancer of the stomach. Up to 1879, when the first radical removal of cancer of the stomach was performed by Pean, by Rydyier the following year, and the first successful case by Billroth in 1881, the mortality of cancer of the stomach was 100 per cent., and, while the present results are not of the character which gives us perfect satisfaction, yet much has been accomplished in bringing comfort, and in some cases a cure, to patients for whom no medical treatment is known. The operative treatment of cancer of the stomach has been established along well defined lines. The weakest link in the chain is the early diagnosis. According to the census of 1900 the number of deaths due to disease of the stomach, including gastritis, was 13,484. In the registration area for the same year 4,220 deaths occurred from this disease. As the registration area comprises about 40 per cent. of the population of the United States about 9,000, or 70 per cent. of all deaths due to diseases of the stomach are caused by cancer.

William H. Welch, from a study of 31,482 cases, finds that the stomach is the site of cancer in 21.4 per cent. and the uterus in 29.5 per cent. of all cases. Virchow stated that the stomach was the primary seat of cancer in 34.9 per cent. of cases. In the study of 2,268 autopsies at the Philadelphia General Hospital 121 cases of primary cancer were further distributed, as follows: Breast, 6; stomach, 45; uterus, 13; liver, 10; esophagus, 8; pancreas, 5; ileum, 2; prostate, 5; gall-bladder, 3; common bile duct, 2, etc. In this series the stomach was the site in 37.2 per cent., and the uterus 10.7 per cent. E. Hale White states that 1.5 per cent. of all deaths in Guys Hospital are due to cancer of the stomach, and of 1,000 deaths in Brussels in 1908, 24 were of cancer of the stomach, 16 of the 1,000 died of cancer of the uterus.

Of the diagnostic aids in cancer of the stomach we have many, not all essential, as the parts of a jig saw puzzle, to make a perfect picture, but all contributing their share of the evidence. With the exception of the advanced cases when pain, hemorrhage, loss of weight and tumor make the diagnosis only too apparent, it might be stated that we have no reliable and positive means of diagnosis of early malignancy of the stomach without prompt exploratory laparotomy. Mayo and Moynihan are responsible for the aphorism that when a patient in middle life with or without a gastric ulcer history and without special cause begins to lose weight, has digestive disturbances accompanied by a tumor or pain, suspicions should be had of gastric cancer and exploration promptly done. John B. Deaver, in his characteristic manner, says: "Thousands of lives are lost annually owing to the unwillingness to act on suspicion before a diagnosis can be made. In these cases uncertainty is the signal to act rather than delay, and unless this is recognized the holocaust will continue until a means of early diagnosis of malignancy is found which, unfortunately, is not even upon the horizon." Continuing, he says: "Cancer of the stomach once in the hands of the specialist with his test meals, glass beads, gastro-diaphane, and bismuth X-ray examinations, etc., never emerges in a curable condition. His chances are sacrificed on the altar of diagnostic ambition." Mayo has found that 80 per cent. of all gastric cancers are located in the pyloric end and along the lesser curvature. Seventy per cent. are so situated as to interfere mechanically with motility and are operable, 10 per cent. are around the cardia, giving rise to oesophageal obstruction, and 10 per cent. are in other parts of the stomach. The history shows a steady and progressive loss of weight, secondary anemia in which both the hæmoglobin and R. B. C.'s are diminished. Pain may or may not be present. There may be simply a heaviness, dullness, or gnawing in the epigastrium with local tenderness. Vomiting is fairly constant and is earliest when tumor is near the pyloris, and usually appears from one to two hours after taking food. Hemorrhage in the vomited material occurs in about 40 per cent. of the cases. The stomach contents shows absence or diminished HCl. Tumor may also be present. Presence of lactic acid is of value indicating stasis. The history of the patient is of the greatest importance, as it will be found that a very large percentage will show the presence of gastric symp-

toms antedating the development of cancer. The relation of cancer to gastric ulcer is in a large number of cases readily traced in the history. Graham demonstrated in 1903 that 15 per cent. of all gastric cancer had an ulcer base. This reached 18 per cent. the following year. In the year 1905 47 to 49 per cent. of cases presented histories ranging from 3 to 37 years' duration. Mayo reports 39 cases showing 56.4 per cent. developing on an ulcer base. The most recent statistics from this clinic shows 71 per cent .of cancers developing on an ulcer base.

Graham divides his histories into three groups:

"First, those preceded by a typical, prolonged ulcer history. Second, those in which years before the recent continuous attack, a stomach disturbance has been complained of, but in which there had been a period of years of perfect freedom from symptoms. Third, those having no record of a gastric disturbance till the sudden development of malignant signs. He states that in the first group, which includes 50 per cent. of cases, it is impossible to tell just when the malignant change takes place, for often in the presence of anorexia, great waste, marked hemorrhage and advanced cachexia, ulcer is the only condition found in operation. It is in the second and third groups that the diagnosis is more frequently made. In these it is usual to find cachexia, great loss of strength, wasting, weakness, loss of appetite, marked distaste for food, pain, tumor, foul vomitus containing food and blood, and usually absence of Hcl." Moynihan says of the chemical examination of stomach contents that "it is of little or no value in so far as early diagnosis is concerned. In later cases when a possible diagnosis of malignancy is made on the clinical evidence, the results of repeated analysis of stomach contents affords additional evidence of considerable value."

In considering the aid to diagnosis by X-ray we must not lose sight of the fact that the normal stomach, as verified by Bismuth skiagraphs, shows the greater curvature nearly always below the umbilicus, and often from 1 to 2 c.m. below in the vertical position. It is not possible to recognize slight degrees of dilatation by the X-ray. In the recumbent position the Bismuth collects in the fundus and the greater curvature is difficult to recognize. But far more satisfactory are the results obtained by the inflation of the stomach with air introduced through the stomach tube. This shown the normal greater curvature to

be slightly above or on a level with the umbilicus. Slight dilatation is recognized by the stomach extending below this point. Tumors also may be brought into prominence which would be otherwise unrecognizable. It may be said therefore that in the early diagnosis of cancer the X-ray is of value only in so far as it gives us a clue to the shape and movements of the stomach. In making Bismuth X-ray examinations the patient should be given 2 ounces of Bismuth suspended in a pint of bread and milk or other suitable media. The examinations are preferably made with fluoroscope. Place the patient in a vertical position, and with the fluoroscope watch the first few mouthfuls as they pass into the stomach, noting any irregularity of the descent. The patient is then placed on the right side for a minute after swallowing all the mixture, to allow the food to enter the pyloric vestibule. The patient is now placed on the back during the remainder of the examination, the tube being placed under the table. Occasionally an abnormality in the outline of the stomach may be caused by the growth of the tumor within the lumen. In cases where the pyloric vestibule could not be seen in any position it may be assumed that the growth at this point permits only the entry of very small amounts of gastric contents. Valuable evidence is obtained in the irregularity of the passage of peristaltic waves toward the pyloris. When the growth is in the pyloric vestibule the waves, which may be unusually strong and frequent often cease some distance from the pyloris owing to the growth interfering with the normal activity of the stomach muscle. An additional help is said to be gained by inflating the colon with air. This pushes the stomach upward and makes the outline sharper and causes tumors otherwise unrecognizable to be palpated. Dilatation must be interpreted in general as an end result of pyloric obstruction. Cohnheim states that the location of the greater curvature is practically of little importance. The real valuable information is conveyed more by the motor function than by the size.

Gastric retention may be ascertained by washing out the stomach at various times after a meal consisting, for example, of a quarter pound freshly minced meat and some bread. The normal stomach should be empty in six hours. If dilatation or motor impairment exist food may be found hours later. Ewald suggests the administration of salol, which is not acted on in the stomach, but is split up by the pancreatic juice. The salicylic

acid is excreted by the urine and is detected by addition of neutral ferric chlorid, a violet coloration resulting. The most practical test for pyloric obstruction is obtained by feeding the patient a dish of rice and raisins at night. If on gastric lavage the next morning any rice or raisins are found we are dealing with pyloric obstruction.

Hertz considers occult blood in the stools of great importance as hemorrhage visible in stools rarely occurs, also blood visible in vomit occurs in less than 40 per cent. of cases kept under observation till a fatal ending. Visible blood when present in gastric cancer is a late symptom and may equally be due to a simple gastric ulcer. Minute hemorrhages are constantly occuring from the surface of every malignant ulcer so that a small amount of blood is constantly excreted in the feces. In testing for occult blood the patient should be put on a farinaceous or milk diet for a few days to overcome the possibility of error due to the sensitiveness of the test in the presence of the blood contained in a meat diet.

From the foregoing we might draw the following conclusions: First, exploratory incision is the only positive method of early diagnosis and should be employed in every case where a suspicion of gastric cancer exists; second, that there is no medical treatment of cancer of the stomach.

The results obtained by operative interference are well summarized by W. J. Mayo as follows:

I. Operations for cancer of the stomach at St. Mary's Hospital April 21, 1897, to January 27, 1910:

Total number	627
Explorations—hopeless condition	206
Gastro-jejunostomies	169
Gastrostomies	26
Excision of ulcer with cancerous change	2
Resection for cancer	224
	627

II. Cases of cancer of the stomach examined in the clinic between January 1, 1908, and September 1, 1909:

Total number	335
Hopeless and not admitted to the hospital	146
Resections	78

Gastro-jejunostomies	39
Excision malignant ulcer	2
Exploration inoperable disease	70
	335

Thus only 80 out of the 335 cases, or less than 24% applied for treatment at a time when a curative operation could be undertaken.

III. Operations for carcinoma involving the pyloric end of the stomach:

Total number	224
Males	163
Females	61
Age of oldest	81
Age of youngest	30
Average age	53
Patients operated on over five years ago:	
Total number	50
Present condition unknown	39
Alive and well (one 8 years 2½ months; one 8 years; one *7 years 2 months; one 6 years; one 6 years 11 months; one 5 years 3½ months; one 5 years)	8
Patients operated on over four years ago:	
Total number	85
Present condition known	64
Alive and well	13
Patients operated on over three years ago:	
Total number	117
Present condition known	88
Alive and well	18
Patients operated on less than three years ago:	
Total number	107

Cases in the last group (operations less than three years ago) are too recent to be of any statistical value as to the question of cure.

Gastro enterostomy is indicated in those cases where a resection is impossible and those presenting pyloric stenosis or nar-

* Has died since of recurrence.

rowing of the stomach as in hour-glass stomach or when stasis has been a marked symptom. In cases where the growth is limited to either curvature without stenosis or stasis, gastro-enterostomy will be of no service.

Carcinoma of Gall-Bladder and Ducts.

Carcinoma of gall-bladder gives rise to a painless tumor which comes on slowly before the development of jaundice. A gall-stone history can nearly always be elicited. The tumor in cancer of the gall-bladder becomes more nodular as the liver is involved. In cancer of the gall-bladder as in other forms of abdominal cancer loss of weight and cachexia are important elements in the diagnosis. The jaundice of cancer when it appears is constant. Courvosier demonstrated that 86 per cent. of cases of tumor of the gall-bladder with jaundice were malignant. The relation of cancer of the gall-bladder to gall-stones is so intimate that their presence cannot be overlooked as being of great importance in the etiology of cancer. Courvosier on examination of 84 cases of primary cancer found stones in 72. Two had passed stones. In the remaining 10 cases scarring of the duodenal papilla stricture of the same and dilatation of the bile passages indicated clearly the former presence of calculi. Musser found gall-stones in 69 of 100 cases of primary cancer. In 1,800 gall-bladder operations the Mayos found gall-bladder and duct cancer in 4 per cent. of cases. Seventy-five per cent. of these were cancer of the gall-bladder and 25 per cent. cancer of the ducts. In cancer of the gall-bladder, the new growth usually occurs in the fundus. Carcinomatous ulcer is frequently found. Cancer of the gall-bladder and ducts usually comes under observation too late to allow of complete extirpation. Mayo observes that in 7 cases where a thick-walled functionless gall-bladder was excised early cancer was removed. The gall-bladder should be examined microscopically in every case in which it is removed. In two thousand one hundred eighty consecutive autopsies Slade found 33 cases in which stones were present or had been removed just prior to death. In 17 the stones were discovered only at autopsy, in 10 of these the gall-bladder was normal, in one the wall was thickened and cancer was found. In the 16 in which stones were found one had the gall-bladder removed for cancer and in 3 the diagnosis was made at autopsies. In 7 no microscopic examination was made, but

in the remaining 5 all showed cancer, so that cancer was present in 30 per cent. of all cases and 56 per cent. of those in which gall-stones had caused symptoms. Osler states 5 per cent. of all gall-stones cases show cancer. Mayo sums up the relation of cancer and gall-stone disease as follows: "First, gall-stones are almost always present in primary cancer and not in secondary metastases; second, the relative disproportion of malignant disease of the gall-bladder and gall-stone disease in men and women is practically identical; third, the pathologic lesions actually found as best explained on the irritation theory."

The prognosis is necessarily unfavorable owing to the technical difficulties of radical removal. By far the greater benefits are to be derived from the early diagnosis and surgical treatment of cholecystitis and choleliathisis. In cancer of the gall-bladder prompt excision should be done. It has also been suggested to remove a segment of the liver with the gall-bladder. This presents great difficulties on account of the control of the hemorrhage. The mortality in the cancer of the ducts is higher than that of the gall-bladder because of the above stated difficulty of complete excision and of establishing communication of the gall-bladder with the bowel. Cholecyst-enterostomy may give temporary relief in cancer of the duct. If the gall-bladder is healthy and contains bile, the presence of marked jaundice of palpable nodules in gall-bladder regions and ascites are contra-indications to operation. Cardiac and urinary embarrassment are also contra-indications.

Carcinoma of the Pancreas.

Cancer of the pancreas has been observed as early as seven months but like all other forms of cancer takes its greatest tithe in the fourth decade. Biach examined the autopsies records of three Vienna hospitals:

HOSPITALS.	Autopsies.	Carcinoma.	Pancreas.
Wein Allgemeinen Krankenhaus.....	18,069	1,270	22
Wiedener Krankenhaus	5,065	514	6
Rudolfspital	477	221	1

Segre collected the post mortem records of Milan for 19 years. Out of 11,472 post mortems were 127 cases of carcinoma. In only 12 was the disease limited to the pancreas. Rhode of Kiel reports the examination of 5,152 post mortem records in which 13 cases of carcinoma of the pancreas occurred.

Soyka reviewed 3,950 post mortems, which showed 313 cases of carcinoma, 3 of which were of the pancreas. Hale White reviewed 6,708 post mortems in Guys Hospital and found 42 cases cancer of the pancreas, 31 of which were primary, 11 secondary. The total number of autopsies included in this study was 51,693, in which cancer of the pancreas occurred 214 times, or one case of cancer of the pancreas in every 241 autopsies. The pancreas may be the primary seat of carcinoma or may be secondarily involved. Osler claims that 10 per cent. of all cases of gastric cancer affect the pancreas. This secondary involvment may be readily understood by the anatomical relations of the stomach, duodenum and pancreas, as we find that the head of the pancreas is the most frequent site of cancer. Of the 127 cases reported by Segre, 57 give the position of the growth, in 35 the growth was in the head, 19 diffuse, 2 in the body and one in the tail. In 78 cases Oser found the head involved in 39 cases. Hence we observe that in over 50 per cent. of the cases the new growth is located in the head of the pancreas. Some pathologists give the percentage from 70 to 80. The fact that the new growth is located in the head explains many of the symptoms of malignant disease of the pancreas. Thus, Courvosier in 66 cases of common duct obstruction due to diseases of the pancreas found carcinoma in 55. It is readily seen how the common duct is obstructed by the new growth and the consequent jaundice so constant a symptom of malignant disease of the pancreas is produced. The growth by pressure on the canal of Wirsung may produce a dilatation throughout the body of the organ. It may encroach on the duodenum and produce obstruction, may compress the pyloric end of the stomach, cause pressure on the colon, ureter, portal vein, aorta, vena cava, splenic artery and vein and superior mesenteric vein. Thrombosis of the portal vein has been reported. The breaking down of the growth may cause perforation of the stomach, duodenum etc. Secondary nodules occur very commonly in the liver. Fat necrosis is also a common complication. The symptoms pointing to cancer of the pancreas are often so insidious in character that the actual condition is only diagnosed on the operating table or at autopsy. In general we find a patient who has for a period of time suffered from indefinite digestive disturbances which in themselves are not distinguishable from those produced by other organs in the upper abdomen. Then we have

the gradual onset of jaundice, which eventually becomes permanent. The gall-bladder may now become enlarged and tense, and more or less palpable. A tumor may be felt in the region of the head of the pancreas. Cachexia may develop, patient loses weight and strength, fat and undigested muscle appears in stools which are of large amount. Pain is of paroxysmal type, it may be constant and not infrequently resembles the gastric crises of tabes. The urine often contains albumen. Glycosuria is not a constant symptom. To summarize, whenever in a patient past middle life, jaundice comes on painlessly and becomes absolute, with gradual enlargement of the gall-bladder, so as to form a perceptible tumor, associated with rapid loss of weight and strength, a diagnosis of cancer of the head of the pancreas is probably correct. The treatment of pancreatic cancer is surgical only. Villar records 13 operations for malignant tumor with 5 operative recoveries and 8 deaths.

The first pancreatic resection was performed by Bologne in 1889. This was for adeno-carcinoma of the tail in a woman of 50 who made a good recovery. Cancer of the head of the pancreas should always produce a distended gall-bladder, but clinical experience does not bear this out. In the diagnosis between tumor and stone no actual pathognomic importance can be attributed to Courvosier law, the value of which is often exaggerated.

MUCOUS DISEASE.

Read before the Schenectady Academy of Medicine, October, 1910.

By CHARLES F. CLOWE, M. D.,
Schenectady, N. Y.

While this paper, which I have to present for our consideration this evening cannot be called strictly a clinical one, my excuse must be that the subject is so strictly a practical one for all of us and that we meet it so frequently that each of us can mentally supply plenty of cases for ourselves.

For it must be said that this condition is very common, and any man in active practice will meet cases of one form or another almost daily.

The term "mucous disease" was first applied to this type of cases by Dr. Eustace Smith, and, as we shall see a little later,

the theory which he has advanced seems to fit the symptoms admirably.

It was said here the other evening that we were to come here and confess our mistakes and receive such help as the members could extend to us. This must be my other excuse for bringing up this subject for I must say that until very recently many of these cases escaped my notice, or what is still worse, were treated as due to entirely other causes.

By the term mucous disease we mean then various forms of chronic gastro-intestinal catarrh occurring in children, and as is so often the case in diseases in children, showing so irregular a form, or presenting so varied a list of symptoms that it is quite likely often that the true cause of the ill health of the little patient entirely escapes us.

I wish with your kind indulgence to describe to you for a few moments what these children commonly look like; how they act; and how I think they should be treated. I realize that many of the cases might be assumed to be from other causes, but I am sure in my own mind that most of them can be much improved on the treatment to be laid down.

The children are usually brought in by the mother with the complaint that they are losing flesh, that they are fretful and peevish, are disinclined to play, that they lie about the house and that they cough. These are the symptoms which commonly attract the mother's attention, and right here is our first chance for error for this symptom complex leads us at once to think of tuberculosis. We must bear in mind though that pulmonary tuberculosis is a very rare disease in children and must only be pronounced after the most exhaustive examination.

If we begin to inquire into the history of the child we will find several other symptoms present. We will be told that the appetite is poor or at least very irregular. Sometimes it will occur that the child eats a great deal but steadily continues to lose flesh. They may at the same time have a craving for various abnormal substances.

When we inquire as to the bowels we will be told that the child is constipated, that the stools occur at irregular and often long intervals, and that when a passage does come it is in the form of hard lumps covered with mucous.

Occasionally you will be told that the child is troubled with worms. In a few cases there is a history of diarrhœa. The

mother will say that immediately after the child eats there is a movement from the bowels.

Questioning further you will learn that the child sleeps very poorly at night. Many of them also suffer from enuresis and night terrors. Sometimes also they suffer from attacks of sudden and alarming pallor, lasting a few moments only.

When you come to your examination of the child you will likely find that it is pale and anæmic looking, with dark rings under the eyes. Looking at the tongue you will find certain well-marked features. It is generally covered with a thin fur through which you can see the enlarged papillæ. In other and very typical cases the tongue is glazed and has the appearance as though a solution of gum had been rubbed over it. Others again have peculiar denuded areas over the tongue. The so-called geographical tongue.

When we come to inspect the throat we find that it is in a very unhealthy condition. There is a chronic pharyngitis, the tonsils are more or less enlarged, and there are frequently adenoids. It is really to the condition of the throat that the cough is due. In fact the majority of cases of chronic cough in children that come to us are due to throat condition entirely and not to the lungs at all.

The urine is apt to be cloudy, urates present and at times albumen.

These then are the chief symptoms of this so-called mucous disease. We often see cases, however, that are not at all typical. Some show only the constitutional symptoms. That is, wasting accompanied by some mental irritability and languor. In others the stomach symptoms predominate. They may complain of pain after eating, which may not be located, but seems to be general through the bowel, perhaps due to distention. Others are brought to you as having worms, and I think it far more likely for worms to be present in these patients than in children with healthy stomach and bowels. I do not think it likely that the ova find a highly favorable lodging place unless there be much mucous present.

We might look now for a moment on the pathology of the disease, if pathology it may be called.

As I remarked before, Dr. Eustace Smith advanced a very neat theory about it that seems to explain all the symptoms.

He holds that it is due to an over-secretion of mucous through-

out the whole alimentary canal. This produces in the stomach slow and painful digestion. In the intestines it covers over the intestinal contents, thus interferes with absorption, and hence the wasting. The hard and scybalous masses that result get covered with mucous and the wall of the gut gets no hold on them but glides over them and hence the constipation. Again when there is proteid matter in the urine it is due to the over secretion of mucous in the urinary tract. One might also say that the condition of the throat is one of over-secretion of mucous.

Of course there may be many objections raised to this theory. There are some that think that this condition is too obscure and serious to be explained by so simple a theory. These hold that it is due to a disorder of metabolism such as gout. Or that it is due to a defective power of assimilation.

There is, however, one very cogent argument in favor of the mucous theory and that is the very rapid and permanent improvement that takes place when the patients are treated on that supposition.

However: whatever we may think is the underlying cause there is one exciting cause that is so general as to be almost universal. And that is the excessive consumption of sweets. It might almost be called the dyspepsia of sweet-eating children. We all know that the use of sugar causes the free secretion of mucous.

Now a word as to the diagnosis. As I said a moment ago, there is one condition that we are especially apt to mistake this for and that is tuberculosis. Just one thing will guide us absolutely in this and that is to watch the temperature. A constant evening rise for a number of days quite surely spells tuberculosis.

Next comes the treatment. This is very simple and I repeat that my only excuse for bringing up this subject is the frequency with which I formerly mistook this condition. And in this I have not been alone.

The greatest essential in the line of treatment is the limitation of the diet. If we recognize the cause of course the inference is plain. We must cut out all sweets from the diet. The child must also be absolutely forbidden to eat between meals. Then the carbo-hydrates should be limited. The only ones allowed should be stale bread and dry toast. It is not necessary for me to go into details, as if the principle is kept in mind we cannot go amiss.

Another thing that frequently gives great benefit is to send the patients into the country where change of diet and scene, and even more the increased exercise will work wonders. These children are often those who take very little real healthy out-of-door play. Exercise taken by a sedate walk on the street or by drive in carriage or auto will by no means take the place of play for a growing child.

When we come to consider drugs the two things that will give the most benefit are alkalies and aperients. These are useful no matter whether there is constipation or diarrhœa. Alkalies are to be given because they dissolve and laxatives because they get rid of mucous. Whether the theory is correct or not we at any rate get great benefit from this line of treatment. Any alkali will do but Pot. Bicarb. seems to be the most successful.

As an aperient nothing works so well as rhubarb. Probably because this drug is not only an aperient, but also has a tonic and astringent effect upon all mucous membranes. It often seems to assist the action of these remedies to add to them a small dose of gentian or nux.

Another thing that seems to aid the treatment is to begin it with small doses of calomel.

After this treatment has been kept up for two or three weeks a marked improvement in all directions will be noticed. The appetite will improve, the child will gain flesh and will sleep well. Then is the time to begin tonics, preferably iron in small doses. A common mistake we are all apt to make is to put these poor children at once on iron to make them strong and cod liver oil to make them fat. Such treatment only adds insult to injury until the stomach difficulty is first overcome.

If the diarrhœa is a troublesome feature there is nothing that will so nicely relieve it as small doses of Tr. Opii. before meals. For the reason that the trouble is due to increased peristalsis and the only logical procedure is to quiet it.

The cough that is so common may require local treatment of the throat.

I have seen several cases lately where the physician has made the mistake of attributing the whole condition to the adenoids and promising the parents a complete cure by means of an operation.

Of course the patient seems only a little better after the operation and the doctor loses hold of that family. An adenoid

operation is entirely right and proper, but of course should not be depended on to put the whole alimentary tract in condition. Other conditions should be combated as they arise but experience shows that the more closely we adhere to alkalies and laxatives the more brilliant will be our results.

THE DIFFERENTIAL DIAGNOSIS OF EARLY CARCINOMA OF THE STOMACH AND BENIGN SUBACIDITIES.

Read before the Medical Society of the County of Albany, December 29, 1910.

By JEROME MEYERS, M. D.

Carcinoma is a frequent and fatal disease. It is found in all races and at all ages, and is increasing in all civilized countries. The recent statistics of the Second International Conference for Cancer-Research show that, in the province of Baden, for the period from 1883 to 1907, cancer has increased thirty per cent.; and that it is generally advancing to second place as the cause of death among adults.[1] In England, of all individuals over thirty-five years, one female out of every eight, and one male out of every eleven, die of carcinoma, a higher death-rate than that of tuberculosis for corresponding ages. The mortality is practically 100 per cent., if the carcinoma is not excised, or is inoperable. Charles Mayo[2] gives the appalling number of 80,000 cases of carcinoma constantly in progress in this country, 40,000 of which die annually. In the city of Philadelphia, for a period of twenty-five years, during which typhoid fever was epidemic, there died of typhoid 15,407 persons, including children; there died of carcinoma, a disease of middle life especially, 15,379.[3] It has been estimated that from seventy-five to eighty-five per cent. of all carcinomata grow in the intestinal tract.[4] One-fourth to one-half of all cases of carcinoma are carcinoma of the stomach.[5]

By early carcinoma of the stomach we understand cancer capable of diagnosis before a tumor can be palpated or is still circumscribed, or cancer, which through certain subjective symptoms and objective findings, arouses grave suspicion and justifies an exploratory incision to corroborate clinical investigation, both conditions promising a chance of life and cure through

extirpation of the growth and involved tissues. By benign subacidities, we mean any continuous reduction in the HCL, pepsin and rennin content of the gastric secretion, varying from slight diminution to complete loss of free HCL and almost complete loss of total acidity, pepsin and rennin, but not due to malignant disease. The question at hand, therefore, is, given a subacidity, have we a malignant or benign cause for the condition?

The diagnosis of any disease of the stomach depends on an understanding and correct interpretation under pathological conditions of its normal anatomy, its physiological and chemical activities, its muscular movements, and its form, size and position. All tests and examinations are grounded on these basic facts and on the anatomy and physiology of all other organs anatomically or physiologically related to stomach.

There was a time when the entire functions of the stomach were supposedly explained by terms, such as trituration, concoction, maceration, putrification or fermentation.[6] William Hunter remarked that some physiologists would have it that the stomach was a mill, others that it was a fermenting-vat, still others that it was a stew-pan. In 1752 Reamur banished metaphysical possibilities and impossibilities as far as the basic chemical function of the stomach is concerned. He ingeniously administered to buzzards hollow metal tubes containing food; the food within was digested, thus establishing by experimental proof, that the action of the stomach on food was solvent. By the use of sponges, he was able to procure gastric fluid from the stomach. These experiments were enlarged upon by Spallanzani, who gave animals meat attached to strings. He established the theory of chemical solution, or chymification by a fluid secreted by the stomach, which fluid he named gastric juice, but did not understand the presence of an acid in the secretion. It was a young American, John R. Young,[6] who, in the year 1803, in preparation of a dissertation for graduation in medicine from the University of Pennsylvania, through a series of brilliant experiments on frogs and man, proved not only the acid properties of the gastric juice, but also its great power in the digestion of connective tissue, in the form of bone and cartilage, a fact applied one hundred years and more afterward, for the lack of HCL and pepsin, through the presence of connective tissue in the feces. Young attempted to identify the acid

in the gastric juice, but on account of deficient chemical knowledge of the time, determined it as phosphoric.

The rise of modern chemistry has made the study of the physiology of digestion possible. In 1824 free HCL in the gastric juice was demonstrated by Prout and by Tiedemann and Gmelin. This discovery was of tremendous importance, but it was more than fifty years before the enlightening recognition of its variations and their greater importance for the diagnosis of various gastric and digestive disorders occurred. In 1869 Kussmaul[7] first recommended the therapeutic use of the stomach-tube in treatment of dilation of the stomach. In 1871 Leube instituted gastric diagnosis by means of the stomach-tube, seeking to estimate the time and degree of digestion. In 1879 there appeared the report of work, by V. D. Velden in Kussmaul's clinic, in which it was shown for the first time that dilations that were malignant did not give a positive test for HCL, while those which were benign, showed the presence of the acid. Later followed the test-dinner of Riegel and the widely used and simple test-breakfast of Ewald and Boas, opening fields of work which rapidly classified gastric diseases by reliable methods of chemical and microscopical examination. Following the clinical and diagnostic period came the fundamental researches of Pawlow. To-day the finer methods of chemical analysis, more intricate tests founded on physiological knowledge of the stomach, the pancreas, intestine and liver, the X-Ray, practical and experimental surgery, are furthering the diagnosis of lesions of the stomach and allied structures. The test-diet of Schmidt, the numerous tests for pancreatic integrity, the application of biologic theories and reactions, the surgical results and observations of the Mayos, of Moynihan, of Kocher, and others, have dispelled many fallacies and given new ideas and permanent results in diagnosis and treatment.

There is little credit in the diagnosis of carcinoma of the stomach when the tumor protrudes from the abdomen. It is very similar to the recognition of a compound fracture. Such cases, and cases with clear symptoms of obstruction at the cardia or those with severe stenosis at the pylorus with dilatation and symptoms of stasis, except where it is a question of obstruction due to chronic ulcer, or adhesions, will not be considered. The

debatable ground lies between the ostia of the stomach, and before symptoms of stasis have appeared.

The diagnosis of cancer in the cases to be considered hinges primarily on the history and the condition of the gastric secretion. No rule can be laid down regarding the degree of free or total acidity in the early cases. Careful history-taking, corroborated by the Mayos at operation, has led Graham[8] to estimate that sixty-two per cent. of the cases operated upon were preceded for months or years by symptoms and anatomic conditions of gastric ulcer. A high acidity, such as is often found with ulcer, acting as an irritant, especially about the edges of the ulcer, causing the proliferation of glandular cells within the scar tissue,[9] is a dangerous condition, and an important one to recognize in the life-history of the patient. Consequently in these cases when ulcer has been the primary lesion, an acidity that is normal, subnormal, or even above normal does not rule out the possibility of incipient carcinoma.

There are many cases of chronic subacidities of the stomach, varying from slightly subnormal conditions to almost total disappearance of the gastric elements. These cases are unrecognized very often by the patients themselves, because the symptoms are few, if any, for years. Then suddenly severe distress, both gastric and intestinal may supervene, often due to an error in diet. If then this class of patient presents itself with subacidity or anacidity, the question of malignancy rises. The anatomical basis is inflammation of the gastric glands, varying from a simple catarrhal condition to complete glandular atrophy or achylia gastrica. The causes are primarily pernicious anaemia, chronic nephritis, diabetes, the later stages and even early forms of tuberculosis, syphilis, and anchylostomiasis, or hookworm disease. These should all be diagnosed by their peculiar symptoms and findings. There are, however, a large number of cases secondary to a hyperacid gastritis from overindulgence in strong alcoholics, others from beer, others of great importance due to bad teeth and improper mastication, others to the persistent abuse of cathartics. These are all strong points in the question of diagnosis, for these cases often present emaciation, obstinate and distressing anorexia, gastric flatulence and eructations, fulness after eating. Vomiting need not be frequent, nor is it in early carcinoma. The stomach empties itself within normal

time-limits or sooner, due to the easy and frequent relaxation of the pylorus, because of the lack of acid chyme in the first part of the duodenum.[10] These patients are apt to suffer from alternating constipation and diarrhœa, due either to improper preparation of food in the stomach or imperfect hormonic action upon the pancreas, the pathological condition varying from slight to most severe enteritis, colitis or proctitis and combinations of all. These gastrogenic diarrhœas[11] require long periods to develop, and as subacidities, even complete achylia, may be found early in life, it will be seen that the effects of malnutrition may evidence themselves at ages, most suspicious of cancer. Epigastric pain at night, the eructation of tasteless gases and liquids, the lengthy period of development, subjective improvement under treatment; the great lack of HCL, pepsin, and rennin found suddenly and at times increasing, a condition exactly opposed to that other great class of cases of ulcer, where with progressing malignancy the HCL, pepsin, and rennin gradually but surely decrease, are important facts speaking for a benign, and not a malignant subacidity.

The writer wishes to call attention to the following observation. He has noticed that a number of these cases of subacidity, especially the severe ones of gastritis, anacida or atrophica, commonly called achylia gastrica, show early in life or give a history of canities or premature grayness, and present a rather peculiar facial complexion, difficult to describe, but impressing one as smooth, some having a smooth reddish tinge, others a smooth more or less clayey color. Whether the canities is coincident with the cause of the achylia gastrica, or is a result of disturbed metabolism by its effect on pancreatic function is problematical. Premature grayness is found in exophthalmic goitre, and glycosuria and diarrhœa are also found, and are due to the relation of the internal secretions of the thyroid and the pancreas. Whatever the reason here, the presence of canities may be of interest and importance in the history and physical findings.

The comparative surgery of the Mayos has shown that sixty per cent. of ulcers of the upper gastro-intestinal tract are situated in the first one and a half inches of the duodenum,[12] that portion of the duodenum receiving the impact of the acid chyme as it is forced by the antrum musculature through the pylorus.

Primary carcinoma of the duodenum is infrequent, and secondary to ulcer is a rarity; carcinoma of the stomach, growing from the base of an ulcer, is the great cause of malignant disease and the danger of uncured or recurring ulcer. The growth of carcinoma in a stomach that for years has been achylic is also a rarity, showing the basic difference in the development of neoplasms in alkaline and acid media. The constant irritation of food and acid on an ulcer, even though the acidity may not be excessive as in many cases of ulcer, constitutes the precancerous stage of gastric carcinoma, and, when found in a history of months or years with subjective or objective findings of now lessening acidity, no matter what a previous acidity may have been, with new or aggravated anorexia, especially against meat, loss of weight, blood and pus in the fasting stomach, or feces on repeated examination, should not only excite suspicion, but call all available methods of medical and surgical diagnosis to the case.

If then our suspicions have been aroused by a thorough history, what can we do to strengthen them or dispel them. Subacidity in itself means nothing. It, like other tests, is not proof, but evidence. It can be found without carcinoma, and the relative subacidity, as found in malignant-growing ulcer, is of far greater importance. Errors in technique in the withdrawal of the test-breakfast and the interpretation of the results of examination must be carefully considered. If the tube withdraws only the upper layers of the stomach contents, we are apt to get alkaline, swallowed mucus which may decrease the acidity in our estimations. Besides it is possible different acidities may pertain in different parts of the stomach.[13] The writer has, in twenty-three cases of various gastro-intestinal disorders, withdrawn two portions, presumably an upper and a lower. In some cases the values of the first and second portions have been equal or slightly variant to the extent of two to six degrees, in others, however, a difference of fourteen and twenty degrees of free HCL, and a difference of twenty-four and forty-five degrees in the total acidity. Therefore as much stomach contents from different depths should be obtained and thoroughly mixed before titration; and repeated test-breakfasts given if possible. Lactic acid and lactic acid bacilli found after a test-breakfast, unless found in small amounts, as an indication of beginning

obstruction and a sufficiently low HCL secretion, are of little value in the early diagnosis of carcinoma. The presence of mucus has no great diagnostic value unless mixed with blood; there are too many sources from which mucus holding pus cells can enter the stomach. The value of the test-breakfast itself except as it indicates the degree of acidity and the pepsin and rennin values, or yields pieces of mucous membrane is of no great diagnostic importance. In achylia gastrica the lining membrane of the stomach is characteristically friable, and often good sized pieces are obtained through the tube.[14] These pieces, cut and stained, show great atrophy and destruction of the gland cells and numerous goblet cells in the openings of the glands.[15] Of far greater value is the emptying of the fasting stomach. The continuous presence of blood in the fasting stomach is of high importance, and is far more constant than in ulcer, especially the chronic indurated form, which because of scar tissue and tumor-formation especially comes into question. The careful examination of the stool for blood, excluding other sources, is of next importance. In carcinoma of the cardiac portion of the stomach, the finding of amœbæ and flagellata[16] in the fasting stomach may be pathognomonic of cancer in this location, except in very rare instances of benign achylia.[17] Closely allied to emptying the fasting stomach is the test for beginning or fine disturbances of motility in carcinoma near or at the pylorus. The giving of a fairly full meal together with some raisins, currants, or rice, the evening before, and the emptying of the stomach early the next morning may give weighty data in conjunction with other subjective and objective findings. In an ordinary subacid gastritis or entire achylia, there is no blood and no disturbance in the motor power of the stomach or in its ability to empty itself within normal limits. As has been said, it may empty itself more quickly than normally. The musculature is not affected, nor is there any obstruction, except in that very rare condition, hypertrophic cirrhosis of the pylorus. The possibility of pylorospasm and symptoms of stasis for varying periods of time must be held in mind, and chronic irritation in the gall-bladder system, the appendix, or the cecum considered. But in the great majority of cases, the finding of food remnants the next morning, even under the microscope, is a suspicious and important moment, pointing toward incipient ob-

struction, and obstruction with suspicious age, symptoms and findings usually means carcinoma.

As regards the general examination of a suspicious case, marked anæmia, associated with gastric distress, is important, but not necessary for a diagnosis. Great care must be exercised in the valuation of anæmia and of emaciation, as many cases of chronic ulcer limit the intake of food almost to a minimum through fear of eating, while cases of benign subacidities lose weight and strength from secondary intestinal disturbances. The presence of an enlarged left supraclavicular gland as originally demonstrated by Virchow, and recently emphasized by Kuttner,[18] may be a strong point for malignancy, especially of the cardia. A left-sided pleurisy may likewise point to early involvement through the lymphatics of the diaphragm. Boas has called attention to superficial metastases about the umbilicus. Others, especially Blumer,[19] to metastases in the pouch of Douglas and rectum. The presence of abdominal ascites deserves emphasis, for it may be present with few or no other deciding findings. It is especially important in the young, where the general rule is for carcinoma to grow more rapidly than in the aged. The presence of these metastases is confirmative, and speaks for more or less advanced carcinoma, and against benign disease.

Sarcoma[20] of the stomach rarely involves the pylorus or cardia until late in the disease. HCL is usually lacking, pain is early in contradictinction to carcinoma, vomiting is infrequent, hæmatemesis is rare except shortly before a fatal issue; consequently the general condition may be good and symptoms not severe until a large tumor is palpable. Sarcoma may occur at any age, and often grows downward from the greater curvature into the folds of the great omentum. Resection of the growth and affected parts has given excellent results, and early diagnosis is here especially valuable.

In the diagnosis between benign and malignant subacidities the Salomon test[21] must be considered. If after lavage the evening previous, the fasting stomach, which shows no signs of stenosis, is thoroughly washed with 400cc. of physiological saline solution early the next morning, and if this solution then gives more than one-half of one per cent. albumin as tested by the ordinary Esbach method, the suspicion of the presence of a malignant growth, yielding an albuminous exudate, is strength-

ened. The test therefore finds its greatest service in neoplasms of the body of the stomach, since stasis of food vitiates the test.

If we suspect a subacidity of the stomach, and if for some reason the passage of a tube is contraindicated or impossible, a very convenient and ready method of examination is by means of the Sahli methylene blue pill. This consists of five grains of methylene blue enclosed in a piece of rubber tissue tied with a strand of oo catgut. As gastric juice is the only digestive secretion that is able to digest connective tissue or to prepare it for digestion, it will be readily seen that with the absence of acid or with a weak gastric juice, the methylene blue will not discolor the urine blue within seven hours as it should in normal gastric secretion. There are certain elements to be guarded against, but it is a very satisfactory procedure in the old and nervous, and while it does not diagnose the pathological basis of the subacidity, in conjunction with other findings, it may often be invaluable. In the same way, the presence of connective tissue in the stool either after ordinary diet, or after the Schmidt test-diet gives us an important clue to the secretory condition of the stomach, especially in achylia gastrica.

The application of biochemical methods to the diagnosis of cancer has led to considerable investigation of hæmolytic and proteolytic ferments elaborated by neoplasms. An especial resistance of the red cells of supposed carcinomatous patients against the serum of known carcinomatous patients has been proven to occur, but does not hold generally.[22] The formation of a proteolytic ferment or trypsin from a neoplasm and its absorption into the general circulation has been applied practically by the estimation of the degree of inhibitory power of the antibody or antitrypsin in the blood against solutions of trypsin. It has been found that the antitryptic index has been high in new growths, except those arising from ectoderm. With these tests as with the meiostagmin[23] or surface tension reaction and the oleic acid estimation[24] in stomach contents, the writer has had as yet no personal experience.

In 1909 Fischer and Neubauer[25] proposed giving glycyltryptophan, which in the presence of a proteolytic ferment arising from a neoplasm in the stomach, would be split into its components, glycin and tryptophan, both of which, being amino acids, are not found normally in the stomach as the result of HCL pepsin

digestion, but occur first as the result of ordinary proteids acted upon by the pancreatic and intestinal secretions. Weinstein[26] has recently proposed the simpler method of testing filtered stomach contents directly after a test-breakfast or a meal of bread, plain meat, butter, and very sweet tea without milk. Two tests are made, one with freshly filtered contents, the other after twenty-four to forty-eight hours incubation at thirty-seven degrees C. Bromin water is cautiously added drop by drop to 3 or 4cc. of the filtered stomach contents, acidulated with three drops of a three per cent acetic acid solution; a positive reaction giving a rose red to a reddish violet color. A repeated positive or negative result is of value. The presence of pancreatic trypsin and of blood must be guarded against in the proper interpretation of the result. The writer is now collecting a series of cases of various gastric conditions, including carcinoma, and hopes to report on its efficacy and reliability, especially in early cases.

The application of the X Ray[27] in the diagnosis of the presence and location of a tumor can at times be of great aid. The direct examination of the stomach by means of bismuth and the fluoroscopic screen offers the most reliable method of determination of the true size, form, and position of the organ. Partial filling of the stomach, breaks in the continuity of the normal lines of the curvatures, lack of compressibility of certain areas, failure of normal antrum peristalsis, interrupted peristalsis, or even reverse peristalsis can all be seen, and are all findings that speak not only for carcinoma in the presence of palpable tumors, but in suspicious cases with non-palpable tumors, especially those nearer the caudal pole of the stomach, and can thus be of diagnostic and prognostic value in the early diagnosis of carcinoma.

If then with the means at hand for clinical and laboratory diagnosis, the suspicion of beginning malignancy is a strong or certain one, the diagnosis can be verified by an exploratory incision. Early diagnosis carries as its corollary early surgical investigation and excision, if possible. Even a palpable tumor does not contraindicate an investigatory laparotomy and possible extirpation. Some excellent results have been recorded even in these cases. The patient deserves a chance, if he wishes it, and medicine with an early diagnosis of carcinoma of the stomach must look to surgery for relief from death.

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Clinical and Pathological Notes

Some Rare Surgical Cases. By Alvah H. Traver, M. D.

Hernia of the Bladder.

In view of the rare occurrence of hernia of the bladder, I wish to place the history of the following case on record:

I shall make no endeavor to go into the literature of the subject, but will quote from a few of the standard surgeries, thereby showing that the condition is seldom seen.

Keen's surgery says "Brunner was able to collect only 180 cases, only 13 of which were diagnosed previous to operation."

Ochsner says "The edge of the bladder is quite frequently found in the sac in inguinal hernias and occasionally a diverticulum or pouch of the bladder forms a considerable part of the sac and also its contents. Kelly says "This condition is rare. It is most frequently found in direct inguinal hernia." Coley found no instance of bladder protrusion in 950 cases operated upon for inguinal and femoral hernia.

The history of my case was as follows: Mr. S., age 65, farmer. About one year ago he noticed an enlargement in left groin, but this never caused him any trouble, and he did nothing for it. Four days ago, while holding a pig which he was butchering, he was taken with severe abdominal pain and vomiting. The enlargement in groin became much larger. The physician who was called diagnosed the case as strangulated hernia. After some difficulty he reduced it to about the size it had been for the past year, but was unable to completely reduce it. The pain and vomiting ceased, his bowels moved, and he was free from pain. On admission to the Albany Hospital I found a mass in the left inguinal region, which I considered an adherent omental hernia. On operation we encountered a mass about two inches in diameter. This had somewhat the appearance of omentum but on opening it, it proved to be the bladder. The opening in the bladder was closed in two layers with chromic catgut, the bladder was dissected from the anterior abdominal wall and returned within the abdomen. Operation was completed as in any hernia, except that a small drain was left in the wound for fear of infiltration of urine. A catheter was left in the bladder for three days. The wound healed by primary union and there was no infiltration of urine. Hernia of the bladder had not been considered in this case as there had been no bladder symptoms at any time.

Gall stones in a patient 19 years of age.

In view of the fact that gall-stones are seldom found in patients under 30 years of age, I wish to place the following case on record: Miss D., aged 19. Father died aged 35, one month following operation for gall-stones; mother died aged 40, of heart disease.

Patient has always been well except that one year ago she had a slight attack of appendicitis. She has never had typhoid fever.

During the past 10 weeks she has had five attacks of abdominal pain, generally accompanied with vomiting. These would subside within 24 hours and she would go on with her school work. Four days ago she was again taken in the same way. This time she was slightly jaundiced. During these four days she has had several severe attacks of pain in the region of the gall-bladder.

Operation revealed a chronically inflamed appendix, which was removed. The gall bladder was filled with stones, 1,000 of which were large enough to count. The gall-bladder was drained and in three weeks patient returned to her school.

In the history of this case, I made note of the fact that the patient had never had typhoid, for Moynihan states, "I have operated on seven patients under the age of 21 for gall-stones. In all these there was a history of typhoid fever."

Fractured Pelvis; Patient 83 Years old; Recovery.

Mrs. McG., aged 83, gives the following history:

Six years ago, when 77 years of age, patient fell and fractured her right hip. Examination showed an unimpacted fracture with the customary symptoms. Extension was applied, and the leg placed in best position possible by means of pillows, and patient kept in a partial sitting position a greater part of the time. Patient made a good recovery and was able to walk, being but slightly lame.

On December 3, 1910, the patient now being 83 years old, patient fell down a flight of stairs. Dr. Case, of Slingerlands, was called and found her in a condition of shock. At the end of 48 hours, she began to regain her strength. Examination at this time showed that the right shoulder had been injured but not fractured. There was, however, a fracture of the pelvis. Fracture extended through the ilium. A broad strip of adhesive plaster was applied around the pelvis, and patient was bolstered up in bed. She is making a good recovery so that now she is able to walk with the use of a cane.

This case demonstrates that the prognosis is not always unfavorable in fractures, even in very old people.

Editorial

> In all diseases of body or mind, it is happy to have an able physician for a friend, or discreet friend for a physician; which is so great a blessing, that the wise man will have it to proceed only from God, where he says: "A faithful friend is the medicine of life, and he that fears the Lord shall find him."
>
> SIR W. TEMPLE.

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Two Notable Resignations.

The recent retirement from active official life of two distinguished physicians, after many years of fruitful labor as hospital superintendents, calls for passing notice by the ANNALS, not only because they have each adorned careers of honorable excellence but also because both have been contributors and stanch friends to this journal. The occasion is of further personal interest in Albany, because of the intimate friendships with the profession here, and the loyal service and help given in medical matters. This was especially shown at the time of planning and constructing the Albany Hospital, much of the merit of which is due to the suggestion of the two physicians whose retirement is now the occasion of such widespread expression of regret.

Dr. John B. Chapin retires from the superintendency of the Pennsylvania Hospital for Insane, Philadelphia, full of honors and, but for the seeming paradox implied by the fulness of his years, one might say, without exaggeration, still full of vigor, after a whole-souled service to that institution of twenty-seven years. Like Nestor of old, Dr. Chapin has ruled over three generations of men and, like that Greek archetype too, he has been renowned for wisdom, justice and knowledge of war—the kind of professional militancy, however, that in the end spells peace for the veteran warrior.

He graduated in arts at Williams College in 1850 and in medicine at Jefferson Medical College in 1853. In 1854 he became assistant physician at the New York State Lunatic Asylum (now Utica State Hospital), Utica, N. Y. In 1860 he organized with Dr. George Cook Brigham Hall, a private hospital for mental diseases at Canandaigua, N. Y., and was its chief physician for nine years. Thereafter for fifteen years (1869-1884) he was Superintendent of the State Asylum at Willard, N. Y. Already

in 1862, in a public paper, he had recommended changes in asylum construction which would provide for the segregation of the insane in detached blocks, according to classes and conditions, which views were adopted in the construction and organization of the Willard Asylum, whose first superintendent he became seven years later. In 1884 Dr. Chapin was chosen physician-in-chief of the Pennsylvania Hospital for the Insane. His long, active service as an alienist cannot be paralleled in the history of American psychiatry, since it is conspicuously unique. This is neither the time nor the place for an estimate of Dr. Chapin's life-work or an appreciation of his character—one which has stood four square to all the world these many years. But it may not be out of place to repeat here an anecdote of the Civil War which Dr. Chapin himself told over six years ago when a multitude of his friends had assembled at a banquet held in Philadelphia to do him honor and present him with an oil portrait of himself. After the battle of Gettysburg, Colonel Alexander Biddle, who had commanded a brigade which held an important position in the field, was directed to make a report. He sat for some time before his blank sheets and then simply wrote that he proceeded to the points to which he had been ordered and there remained with his command until the close of the battle. "In this terse report," said Dr. Chapin, " we would read the summing up of many a life-work that records a victory in the simple and quiet performance of duty as it has come, and as responsibilities have been assumed and discharged to the extent that endowments have been bestowed." In the narration of that incident of battle Dr. Chapin, without knowing it, stood self-revealed. May our venerable contributor and friend live yet many years to enjoy the sweets of retirement with that mind of ease which, given health (and may God grant it!), is the portion of men who have fought the good fight and earned the reward of conspicuous gallantry in the field.

Few men can match the enviable record with which Dr. Henry M. Hurd lays down his office as Superintendent of Johns Hopkins Hospital, Baltimore. Certainly no physician in America is more highly esteemed for efficiency and character. Indeed the reputation of Johns Hopkins Hospital itself is bound up indissolubly with that of the able man who has directed its destinies from the opening of the institution in 1889 until within a few weeks ago. Like Dr. Chapin, Dr. Hurd is by training and ex-

perience a psychiatrist. After taking degrees in arts and medicine at the University of Michigan in the seventies, Dr. Hurd became assistant physician at the State Asylum at Kalamazoo, Mich. In a few years (in 1878) he was promoted to the superintendency of the Eastern Michigan Asylum, at Pontiac, holding that position till he resigned it in 1889 to go to Baltimore. None of Dr. Hurd's contemporaries will be likely to regard as invidious the statement that when the Trustees of the new Johns Hopkins Hospital were aiming at primacy in all things they found in their choice of Superintendent the best equipped man that the United States afforded. His record of twenty-two years' hard work has justified their wisdom and discernment and is his own monument. Like all busiest men, he has found time for all sorts of activities, in the line of his work and extraneous, and every good cause, whether it were medical education, hospital work, or any phase of philanthropy, was sure to enlist his heart and mind and compel his too willing hand. He has labored often single-handed and amid many discouragements, always giving freely all he had to the appointed task. His friends rejoice that he may now look forward to a life of comparative leisure and freedom to do what he may for the public welfare. A man of generous nature and catholic taste, he is well fitted to lead the life upon which he is now to enter. He will be Secretary of the Board and General Adviser, a position which, we imagine, may or may not be a sinecure as the incumbent may elect. Everybody knows what Dr. Hurd's choice is likely to be. As a literary man he will find opportunity in his retirement for the use of his able and facile pen. For many years he has been an editor of the *American Journal of Insanity*, as well as of Johns Hopkins Hospital medical publications, and his contributions to medical literature have been many. For seventeen years he was Professor of Psychiatry in Johns Hopkins University and he is still Emeritus Professor of that department.

The ANNALS prays that to Dr. Hurd, as to Dr. Chapin, there may come all the happiness which is promised to the man that "getteth understanding," and that both may realize to the full that further reward of wisdom: "Length of days in her right hand; and in her left hand riches and honour. Her ways are ways of pleasantness and all her paths are peace."

The new Superintendent of the Pennsylvania Hospital for Insane is Dr. Owen Copp, sometime Executive Officer of the Massachusetts State Board of Insanity, and a hospital officer of large experience; that of Johns Hopkins Hospital, Dr. Winford H. Smith, formerly Superintendent of Bellevue and Allied Hospitals of New York City.

G. A. B.

Public Health

Edited by Joseph D. Craig, M. D.

Department of Health, Albany, N. Y.

Abstract of Vital Statistics, February, 1911.

Deaths

Consumption	28
Typhoid fever	0
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	2
Grippe	8
Diarrheal diseases	2
Pneumonia	24
Broncho-pneumonia	3
Bright's disease	11
Apoplexy	9
Cancer	9
Accidents and violence	12
Deaths over 70 years	41
Deaths under 1 year	28
Total deaths	196
Death rate	25.53
Death rate less non-residents	23.32

Deaths in Institutions

	Resident.	Non-Resident.
Albany Hospital	14	3
Child's Hospital	1	0
County House	8	1
Homeopathic Hospital	3	1
Hospital for Incurables	3	0
Little Sisters of the Poor	6	1
Home for the Aged	0	0
Home for the Friendless	0	0
Public places	3	1

St. Margaret's Home	1	0
St. Peter's Hospital	8	4
St. Vincent's Female Orphan Asylum	1	0
Austin Maternity Hospital	7	0
Albany Hospital, Tuberculosis Pavilion	3	2
Confederation of Labor	1	0
	59	13
Births	94	
Still births	7	

Bureau of Plumbing, Drainage and Ventilation

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred twelve inspections made of which fifty-seven were of old houses and one hundred fifty-five of new houses. There were fifty-seven iron drains laid, thirty-three connections to street sewers, thirty-two tile drains, sixty-nine cesspools, ninety wash basins, ninety-one sinks, eighty-nine bath tubs, eighty-three washtrays and one hundred twelve tank closets. There were sixty-nine permits issued of which fifty-six were for plumbing, thirteen for building purposes. Seventeen plans were submitted of which six were of old buildings and eleven of new buildings. There were fifty-four houses tested, three with peppermint and fifty-one water tests. Fifteen houses were examined on complaint and forty-four were re-examined. Five complaints were found to be valid and ten without cause.

Bureau of Contagious Disease

Cases Reported

Typhoid fever	7
Scarlet fever	14
Diphtheria and croup	12
Chickenpox	1
Infantile paralysis	0
Measles	9
Whooping-cough	0
Consumption	29
Total	72

Contagious Disease in Relation to Public School

	D.	S.F.
Public School No. 3	1	....
Public School No. 7	....	2
Public School No. 8	....	1
Public School No. 16	1	....
St. Patrick's School	2	....
Oral School	....	3

Number of days quarantine for diphtheria:

Longest..... 35 Shortest..... 21 Average..... 26

Number of days quarantine for scarlet fever:

Longest..... 45 Shortest..... 19 Average..... 28 2/5

Fumigations:

Houses..... 42 Rooms..... 168

Cases of diphtheria reported	12
Cases of diphtheria in which antitoxin was used	12
Deaths after use of antitoxin	2

Bender Laboratory Report on Tuberculosis

Positive	26
Negative	21
Failed	0
Total	47

Tuberculosis

Living cases on record February 1, 1911		366
Reported during February:		
By telephone	0	
By Bender	0	
By card	19	
	19	
Dead cases reported by certificate	9	
		28
		394
Dead cases previously reported	21	
Dead cases not previously reported	9	
Duplicates	5	
Recovered	0	
Removed	9	
Unaccounted for	1	
		45
Living cases on record March 1, 1911		349
Total tuberculosis death certificates filed February		28
Out of town cases dying in Albany	0	....
Out of town cases dying in Albany Hospital	3	....
Out of town cases dying in County Hospital	1	....
Net city tuberculosis deaths		24

Bureau of Pathology

Bender Laboratory Report on Diphtheria

Initial positive	10
Initial negative	34
Release positive	0
Release negative	5
Failed	9
Total	58

Test of Sputum for Tuberculosis

Initial positive	32
Initial negative	22
Total	54

Bureau of Markets and Milk

Market reinspections	105
Public market inspections	22
Rendering plant inspections	1
Fish market inspections	2
Pork packing houses inspected	1
Slaughter houses inspected	4
Milk wagons in clean condition	27
Butter fats below 3%	2
Butter fats from 3 to 3.5%	2
Butter fats from 3.5 to 4%	22
Butter fats over 4%	1
Solids under 12%	6
Solids from 12 to 12.5%	1
Solids from 12.5 to 13%	10
Solids over 13%	10

18 lbs. of fish destroyed.

Miscellaneous

Mercantile certificates issued to children	9
Factory certificates issued to children	6
Children's birth records on file	15
Number of written complaints of nuisances	21
Privy vaults	1
Closets	2
Plumbing	4
Other miscellaneous complaints	14
Cases assigned to health physicians	80
Calls made	256
Number of dead animals removed	584

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nurses—Statistics for February, 1911.—Number of new cases, 141. Classified as follows: Dispensary patients receiving home care, 9; district cases reported by health physicians, 4; charity cases reported by other physicians, 56; moderate income patients, 72; old cases still under treatment, 188; total number of cases under nursing care during month, 329. Classification of diseases for the new cases: Medical, 59; surgical, 10; obstetrical under professional care, mothers, 35, infants, 28; infectious diseases in the medical list, 4; removed to hospitals, 4; death, 14.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; medical students in attendance, 5; guild nurses in attendance, 6; patients receiving care during the month, 8; visits by head obstetrician, 3; visits by attending obstetrician, 1; visits by students, 44; visits by nurses, 62; total number of visits for this department, 110.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,314; for professional supervision of convalescents, 317; total number of visits, 1,631; cases reported to the Guild by 4 health physicians and 40 other physicians, graduate nurses 7 and pupil nurses 12 on duty.

Dispensary Report.—Number of clinics held, 82; number of new patients, 155; number of old patients, 380. Classification of clinics: Surgical, 10; nose and throat, 6; eye and ear, 13; lung, 13; skin and genito-urinary, 8; stomach, 2; medical, 11; children, 12; gynecological, 7.

The New Health Bill.—Senator Owens has introduced a bill in Congress providing for a National Department of Health. The main features of the bill are the appointment of a Secretary of Health as the head of the Department of Health, a Secretary and assistants. A board consisting of an expert from the Army, Navy, Department of Agriculture and Department of Justice, and eight additional members appointed by the Secretary of Health. The duties of the new department are clearly outlined, providing for the general supervision and improvement of the people of the country.

Medical Society of the County of Schenectady.—A regular meeting of the society was held at the County Court House, Tuesday, March 14th, at 8:30 p. m. The following papers were presented: "Squint with Special Reference to its Treatment in Infancy and Childhood," by J. J. O'Brien, M. D. "Eye Headache," by D. W. Overton, M. D. "Points of Contact Between the Oculist and the General Practitioner," by M. L. Lord, M. D.

The New York Ophthalmological Society.—The New York Ophthalmological Society desires to direct the attention of the general profession to the serious dangers connected with the practice of allowing opticians to examine and prescribe for those who may be suffering from symptoms referable to the eyes, especially when they do so under legal sanction, and

with the prestige of a great university. The Society desires to emphasize the fact that these men are thus permitted to practice medicine without having qualified themselves by passing the necessary examinations; it would point out also that there is no provision made under the Regents' test, nor in the so-called "Course on Optometry" established by Columbia University, for a knowledge of the use of the Ophthalmoscope, without which, as every medical man knows, it is impossible to determine whether glasses constitute the treatment needed in a given case or not. Moreover, opticians cannot thoroughly practice the mere fitting of glasses, since the law has forbidden them, and wisely so, to make use of mydriatics or drugs of any kind. But most important of all, the general public, laboring under a false sense of security due to the legalizing of optometry and the endorsement secured by a certificate of competence from Columbia University, are subjected to a constant menace not only to their most precious sense of sight, but to their general health, it may be to life itself, in the prescribing of spectacles for what may be a serious or dangerous disease manifesting itself through the eyes.

There are few ophthalmologists who have not had cases which illustrate these dangers, and it is the desire of the Society to incorporate, for the support of their contention, reports of as many of these cases as can be collected in a report which is to be made to the County Medical Society. You are therefore earnestly requested to send at your earliest convenience (addressed to Dr. John R. Shannon, 23 West 36th St., New York City) notes of such cases, in order that this argument may be as convincing as possible.

These communications will be regarded as private and the names of contributors will not appear.

The American Medico-Political Reform League has been incorporated for the purpose of conserving the principles of democracy, fair play, free speech, equal rights and membership government in the medical societies of the United States by attaining the following specific objects:

1. *Adoption of the general ballot and referendum* in the American Medical Association and its constituent bodies;

2. Provision for the *automatic acquirement of membership* in the A. M. A. by members of the district societies, thus abolishing non-membership A. M. A. voting in said district societies, or,

3. *Legal elections* which shall abolish the voting of non-members of the A. M. A. for delegates to State Societies;

4. *Membership transfer cards* for members of the A. M. A. who may change their locations;

5. Amendment of the by-laws of the A. M. A. so as to *prevent multiple officeholding*, thus providing for the separation of the offices of Secretary, Editor and General Manager.

6. *Election of delegates* to the State Societies and the A. M. A. by *general ballot* in the district societies, the representation being proportioned to the numerical strength of the district societies;

7. *Election of Councillors* to State Societies by *general ballot* of councillor districts;

8. *Abolition of voting power* in Houses of Delegates of *Councillors* of State Societies, thus following the precedent set by the A. M. A. in the case of its Trustees;

9. *An open forum* for discussion of medical society policies and methods in the State and National Journals;

10. *Non-partisan administration of State and National Journals;*

11. Encouragement of all logical and practical measures against abuses of *Medical Charities;*

12. Encouragement of all logical and practical measures to elevate the standard of *Medical Education.*

International Congress on Tuberculosis.—At the meeting to be held in Rome next September representatives of over thirty national and provincial associations will be present. The general fight against tuberculosis is now so widespread, having been carried on in Denmark since 1895, and in Hungary in 1894, that this meeting will be of special interest to denote the progress made in combating this condition.

The New College.—A bill has been introdnced in the Senate and Assembly giving the supervisors of the county of Albany power to transfer the penitentiary grounds to the trustees of the Albany Medical College as a site for the new college buildings.

Macdonald Memorial Laboratory.—The subscriptions for the laboratory have now reached the sum of $18,000. All of the Albany dailies have spoken favorably regarding the project in both editorial and news items.

Modern Hospital in Largest Hotel in the World.—One of the numerous features to be offered by the new McAlpin Hotel, New York City, is a fully equipped miniature hospital where cases can be treated with exactly the same care as in the best up-to-date sanitoriums. This practical and extraordinary addition is to be situated on the twenty-third floor of the hotel.

Personals.—Dr. Ianthus G. Johnson (A. M. C. 1853) celebrated his 80th birthday at his home in Greenfield, N. Y.

—Dr. George E. Schoolcraft (A. M. C. '97) has been appointed health officer of the town of Hartwick, Otsego county, N. Y.

—Dr. Clayton K. Haskell (A. M. C. '01) is now doing special work in surgery at Johns Hopkins.

—Dr. Michael J. Thornton (A. M. C. '01) is doing post graduate work in London, England.

—Dr. John P. Faber (A. M. C. '05) has returned from Europe and is located in Schenectady, N. Y.

—Dr. William C. Barth (A. M. C. '08) has removed from Schaghticoke to Newburgh.

—Dr. Charles E. Slater (A M. C. '09) has been appointed health officer of the town of Kinderhook.

—Dr. Morris Bellin (A. M. C. '09) is now practicing at 542 Central Avenue, Albany, N. Y.

—Dr. Elwin W. Hannock (A. M. C. '10) has been appointed chief house surgeon of the Hospital for Relief of Crippled and Ruptured at Forty-second Street and Lexington Avenue, New York City.

Deaths.—Dr. Orrel McFadden (A. M. C. 1865) died at his home, Massena, N. Y., December 29th, 1910, from nephritis, aged 74.

—Dr. Alonzo R. Stephens (A. M. C. '65) died at his home in Herrickville, Pa., February 10th, 1910, from heart disease, aged 75.

—Dr. William Warren Potter, of Buffalo, N. Y., died March 14, 1911.

In Memoriam

Alonzo R. Stephens, M. D.

Dr. Alonzo R. Stephens, one of the oldest physicians in Bradford county, Pennsylvania, died at his home in Herrickville, on February 10, 1911, after a long illness, although he had been confined to his bed but three days.

Dr. Stephens was born in Pike township on June 1, 1835, being the son of Jonathan Stephens, a native of Connecticut, and of English descent. He attended the district school until he was fifteen years of age and then went to Binghamton, where he continued his studies. At the age of seventeen he began the study of medicine under Dr. O. V. Thayer of Binghamton, and seven years later attended the Albany Medical College, where he received his degree of M. D. in 1855. He returned to Binghamton and began practice with Dr. George A. Thayer, and continued with him until 1862 when he enlisted in Company B, 149th N. Y. V. I. He was commissioned assistant surgeon after being on temporary duty as a medical cadet with the 89th Regt., N. Y. V. I. As an assistant surgeon he was assigned to the Twentieth Army Corps, and while in service received a gunshot wound in the leg, and in falling received an injury to his back which caused paralysis.

He was confined in hospitals in Louisville, Ky., and Albany, N. Y., until he was discharged in September, 1865, on account of physical disability. He first went to LeRaysville and in 1866 went to Herrickville, where he has since resided, practicing medicine. He owned a farm, kept good horses, and was a typical country doctor, scattering seeds of kindness everywhere and giving liberally to every worthy cause. He was a prominent member of Hurst Post, G. A. R., and for many years was a United States Pension Examiner. Politically he was a Democrat.

He is survived by two sons, Thayer Stephens of Herrickville, and A. H. Stephens of Granite City, Ill.

Orrel McFadden, M. D.

Dr. Orrel McFadden, the oldest practicing physician, from point of service, in Massena, N. Y., and one of the town's best known and prominent citizens, died at his home on December 29th, 1910, after an illness of several months, although he had been confined to his home only about four weeks, kidney trouble being the cause of his death.

Dr. Orrel McFadden was born in West Chazy, Clinton county, New York, November 21, 1836, and was one of a family of five children, of whom he was the last. His early education was obtained in the local schools and when a young man his ambition was to be a locomotive engineer, and with that in view, he served for a time as fireman. Later he determined to study medicine and attended the medical college at the University of Vermont two years, later going to the Albany Medical College, where he completed his course and graduated in 1865.

He married Miss Mert A. Dominy, of West Chazy and practiced his profession a couple of years in Vermont, going to Massena in the Spring of 1869, where he purchased the practice and property of Dr. Buck, then a well known physician, and for the past forty-one years Dr. McFadden has been one of the leading physicians, during his prime having probably the largest practice of any physician in his neighborhood. Dr. F. A. Anderson several years ago formed a partnership with Dr. McFadden, and they purchased the drug business, which was conducted by them for several years, then Dr. McFadden bought out Dr. Anderson's interest and conducted the business for several years, later selling out.

About twenty years ago Dr. McFadden had a severe attack of pleurisy which nearly used him up, but he recovered, and, although he has never been so rugged since, yet he enjoyed fairly good health and attended to his work, but late years has attended mostly to office work and such patients as insisted on having his services. He was progressive in his ideas and was a thorough student of the subject in which he was most interested, so he kept thoroughly posted on the latest ideas in medicine and surgery.

Dr. McFadden was a good citizen, a good neighbor, charitable and kind, an indulgent husband and father, and the devoted companion of his long and busy life has met with a loss which can only be partially replaced by the devotion of her children. He is survived by two sons, John S. McFadden, of Watertown, and Dr. W. D. McFadden, of Middleport, N. Y., also one daughter, Mrs. J. M. Flaherty, of Oswego.—From *The Massena Observer.*

John Warner Kniskern, M. D.

Dr. John Warner Kniskern died January 31, 1911 at his home, 42 Church street, Amsterdam, N. Y., of tubercular laryngitis.

He was born February 18, 1867, in the town of Carlisle, Schoharie county, where his ancestors had settled in 1647. He attended the district school and was graduated from Hartwick Seminary in 1886. The following year he entered the Albany Medical College, from which he

received his diploma in 1890. For six months following his graduation, he was interne at the Springfield City Hospital at Springfield, Mass., and in August of the same year he became interne at the Albany Hospital. After two years' service, Dr. Kniskern moved to Amsterdam and located on May 2, 1892, at 18 Division street, where he entered general practice. Four years later, he disposed of his practice and went to New York, where he took a special course at the New York Eye and Ear Infirmary. He studied also at the Manhattan Eye and Ear Infirmary, the DeMilt Dispensary, Vanderbilt Clinic and Lebanon Hospital. In 1897 Dr. Kniskern returned to Amsterdam and entered into partnership with Dr. D. M. MacMartin. Their practice was limited to the diseases of the eye, ear, nose and throat. Three years later Dr. MacMartin withdrew from the firm and went to Spokane. Dr. Kniskern took over his practice and changed his office to No. 42 Church street.

Dr. Kniskern was a general practitioner four years and a specialist fourteen years. His friends like to remember him best as he was when in general practice. He was an extremely active and able physician.

Dr. Kniskern had a very striking personality. One who knew him never forgot him. He had a peculiar charm of manner and a magnetism about him that attracted and retained a large body of clients, and his hold upon patients came as much from his individuality as from his medical knowledge.

He had a way of exciting a person's interest, and he could be interesting as few physicians can be. He could amuse one or two or a whole room full at once and keep it up a whole evening, varying sense with nonsense and the sublime with the ridiculous. He was extremely well informed by extensive reading along many lines. He had a style of humor that was infectious. He enjoyed it. He bubbled over with it. He would append a joke to a prescription which would send the pharmacist into spasms of laughter and thus bring sunshine to the compounding room.

He would amuse his patients. He would tell funny incidents, and they were extremely funny the way he told them. He would enjoy them as much as any one. He was original in many directions. He had his own method of treatment of neurasthenia, in which his extraordinary faculty of interesting, played no small part. After obtaining physical signs and symptoms of a complaint, he had a way of putting himself in a patient's place and describe his subjective symptoms. This was done so tactfully and interestingly and with such enthusiasm and confidence, that the patient would exclaim: "That is just the way I feel. Isn't it strange?" This was the beginning of confidence, or as he used to express it he "got" them, and then would listen to the "unbosoming." He had a firm belief that confidence of the right kind in a doctor did as much good as medical treatment, to the neurasthenic, but this confidence must be based upon the assurance that the doctor thoroughly understands not only the patient's case, but the patient as well. His medical treatment of neurasthenia embraced sedatives, hot and cold spinal compresses, massage and static current, and hydropathic measures as the

case demanded. The neurasthenics did improve under his treatment and were not easily turned away after he gave up general practice.

Dr. Kniskern was a profound student of human nature, positive in his ideas, albeit very approachable and of a very likable disposition.

As a specialist he continued to be successful. His health began to fail a number of years back. He allowed himself little relaxation and his waiting room was frequently crowded to the doors. His continued poor health however restricted his work, and he persisted when he was too feeble to stand upon his feet.

Dr. Kniskern was a member of the New York State Medical Society, the Montgomery County Medical Society, and the Amsterdam Medical Society. He was also a member of the Phi Epsilon Kappa fraternity of the Albany Medical College. J. B. C.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by JOHN H. MUSSER, M. D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. KELLY, M. D., Assistant Professor of Medicine, University of Pennsylvania. Volume 1, octavo of 909 pages, illustrated. Philadelphia and London, W. B. Saunders Company, 1911. Per volume, cloth, $6 net; half morocco, $7.50 net.

For the last two decades the posts of honor in the medical army have been largely divided between the specialist and the laboratory worker and most of the books published have dealt with the results of their investigations, the general practitioner being allowed to shift for himself. Valuable as the specialist and the laboratory man are to us, humble workers in a common cause, we can not help but rejoice when men of the standing of Musser and Kelly and their collaborators recognize our needs in a work of the completeness and high character of the one now before us. In the preface to this, the first volume the editors say —"There is in medicine an art and a science—each mutually dependent on the other. The practising physician's chief concern, however, is with the art rather than the science: his pre-eminent function, from the patient's point of view at least, is to preserve or prolong life and to mitigate suffering; his major interest, in a broad sense, is centered in the practical treatment of disease, all else that conduces thereto—etiology, pathology, diagnosis—being tributary, a means to an end. Conscious of these facts, we venture to offer to the practising physician, for his consideration and guidance, this Handbook of Practical Treatment, hoping that he may find it helpful and resourceful and a repository of the best, most modern and advanced views in regard to the management of diseased states."

So well have they accomplished their purpose, so accurately and with such evident honesty have they gone about their work, that one is tempted almost to refrain from comment and to close with the sentences above quoted. Yet so hasty a dismissal would be an injustice and might suggest a lack of appreciation rather than the evidence of commendation meant.

The opening chapter deals in a broad and comprehensive manner with the fundamental principles of therapeutics written in that clear and convincing manner of which Dr. Musser is a past master, leading up naturally to succeeding chapters on preventive treatment, the general principles of dietetics and the dietetics of infancy. Following these we may group together chapters on drug treatment, serum therapy and organo-therapy. The rest cure, work cure, psychotherapy, exercise massage and mechanotherapy, hydrotherapy and balneotherapy, climatotherapy and health resorts, artificial aerotherapy, electrotherapy and radiotherapy are each carefully, thoroughly and entertainingly discussed, to be followed by a chapter on miscellaneous therapeutic measures. There are several other chapters on special subjects, but among them all let us venture to predict, none will have for us greater interest than the one on the treatment of slight ailments.

If the succeeding volumes measure up to the standard set in this one this work will occupy a more commanding position than any recently published medical work. S. L. D.

Modern Treatment: The Management of Disease with Medicinal and Non-Medicinal Remedies. By Eminent American and English Authorities. Edited by Hobart Amory Hare, M. D., Professor of Therapeutics and Materia Medica, Jefferson Medical College, Philadelphia; Physician to the Jefferson Hospital; Author of "A Text-book of Practical Therapeutics," "A Text-book of the Practice of Medicine," etc. In two very handsome octavo volumes, comprising 1,800 pages, with numerous engravings and full-pages plates. Price per volume in cloth, $6 net; half morocco, $7.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

There are many writers of books, some of which are good and some of which are bad; there are writers of many books, a few of which are good and most of which are bad. Of Dr. Hare it can be said that while he is a writer of many books all of his are good. Like the Irishman's definition of whiskey none of it is bad and some kinds are better than others and this book on treatment without any question is the best of all of this versatile author's efforts. He too emphasizes by his title page, by his preface, by his arrangement and by the subject matter that the physician should estimate the cure of disease and the alleviation of suffering as of as much importance as the diagnosis and the laboratory findings.

Nothing that is new, no thing or method of treatment that has given evidence of its practical worth and value in the cure of disease has been

neglected and many ways that have seemed devious and practices that have seemed open to question have been made plain and justified.

The first volume covers a wide range from pharmacology and prescription writing to the use of vaccines, serums and tuberculin with a closing section on infectious diseases.

The second volume relates more particularly to diseases of special organs or systems, each section or chapter in this as well as the first volume being written by one whose position as a teacher or a clinician entitles his statements to careful consideration, and this will certainly be accorded to them with both pleasure and profit to the reader. S. L. D.

Collected Papers by the Staff of St. Mary's Hospital, Mayo Clinic, Rochester, Minnesota, 1905-1909. Philadelphia and London, W. B. Saunders Co., 1911.

This volume of 670 pages consists of a collection of papers, many of which have been read before various medical societies, and all of them have been published in current medical literature. The authors state that their chief reason for bringing them together in the present form is for their own convenience of reference, but by so doing, as the popularity of the volume will undoubtedly show, they have won the gratitude of the profession in general.

The wide reputation of the Mayo Clinic has created a popular demand for the writings of the Mayos and their associates, and any means whereby their writings are placed in a more available form will meet with hearty commendation. The volume comprises the various papers that have been published from the clinic during the years 1905 to 1909 inclusive.

There are approximately thirty complete articles dealing with diseases of the alimentary canal or associated organs, five dealing with the various forms of hernia, seven with lesions of the genito-urinary organs, eleven with hyperthyroidism and other forms of thyroid gland disease, including a consideration of the pathology and operative treatment of one thousand cases, four articles on surgical diseases of the head and extremities besides a number of others on general subjects.

The publishers have supplied a detailed index, and the volume is in every respect thoroughly up to the standard of Saunders' publications.

G. E. B.

Pathogenic Micro-Organisms, including Bacteria and Protozoa. A Practical Manual for Students, Physicians, and Health Officers. By William Hallock Park, M. D., Professor of Bacteriology and Hygiene, University and Bellevue Hospital Medical College, and Director of the Research Laboratory of the Department of Health, New York City, and Anna W. Williams, M. D., Assistant Director of the Research Laboratory; Pathologist to the New York Infirmary for Women and Children. Fourth Edition. Enlarged and Thoroughly Revised. Octavo, 670 pages, with 196 Engravings and 8 full-page plates. Lea & Febiger, 1910.

This excellent text-book is divided into three parts. The first part deals with the general principles of bacteriology—classification, micro-

scopic methods, practical disinfection and sterilization, and use of animals for diagnostic and test purposes. It includes also a consideration of the questions relating to immunity, and the practical application that they have given rise to. Part II is devoted to the pathogenic bacteria. Each organism is considered in detail; short historical notes and a full bibliography at the end of many of the chapters add interest. The chapters on the bacillus of diphtheria and bacillus of tuberculosis are wide in their scope and unusually complete. Part III takes up the protozoan diseases of man. The chapter on the spirochaeta and allies includes all the more recent work on this important group of organisms. Rabies and the malarial organisms are fully considered. The plates, illustrative of the life cycle of the latter and of Mallory's scarlet fever bodies are noteworthy.

The book while undoubtedly answering the needs of students and physicians will prove also of great value to the laboratory worker because of the details of technique which are taken up in connection with diagnosis. H. S. B.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, and the Specialties for Students and Practitioners, by Leading Members of the Medical Profession throughout the World. Edited by Henry W. Cattell, A. M., M. D. Philadelphia, U. S. A. Volume I, Series Twentieth, 1910. Philadelphia and London. J. B. Lippincott Company.

This volume contains an unusual number of helpful articles among which might be mentioned "The Serum Diagnosis of Syphilis," by Homer F. Swift, M. D., of New York, and "The Tuberculins and Their Diagnostic and Therapeutic Use," by John B. Nichols, M. D., of Washington, D. C.

"The Diagnostic Value and Therapeutic Effects of the Bismuth Paste in Chronic Suppuration," by Emil G. Beck, M. D., of Chicago, is another article of merit. He advocates the stereoscopic radiographs instead of the single plates.

"Progress of Medicine During the Year 1909" deals with the latest word on Treatment, Medicine and Surgery, and is worthy of careful reading and study.

The illustrations in this volume are particularly fine, especially the colored plates. H. D. C.

The Care and Training of Children. By Le Grand Kerr, M. D. Funk and Wagnalls Company, New York and London, 1910.

This volume is intended as a parent's book but that is no reason why it should not be read with advantage by the physician. The author wrote a popular treatise for mothers a short time ago entitled "The Baby" and the present book was written to supply a demand for a book dealing with the problems of the older child.

The market is flooded with books intended to enlighten the young mother on the care, feeding and training of her young offspring but the older child has not received his just attention. Chapters on the Government of the Child, the Child's Friends, Amusements, Literature, etc., contain many useful suggestions. The chapter on The Question of Sex is one that can be read with advantage by every parent. H. L. K. S.

Bismuth Paste in Chronic Suppurations, Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M. D., Surgeon to the North Chicago Hospital, Chicago, Ill. C. V. Mosby Company, St. Louis, 1910.

In March, 1906, Dr. Carl Beck of Chicago injected a sinus following spondylitis with a mixture of bismuth subnitrate and vaseline with the idea of taking an x-ray picture and outlining the sinus. The procedure proved to be a valuable aid to diagnosis and also as an unexpected result permanently cured the sinus. Systematic experiments as to the diagnostic value and therapeutic value of bismuth paste injections were at once started and Dr. Emil Beck a brother of Dr. Carl Beck devoted a great deal of his time to this study.

The work being done soon became known and its progress has been followed with great interest by the medical profession and has met with both praise and criticism.

Dr. Emil Beck has now published the results of his experiments in an interesting monograph of some two hundred odd pages in which the subject is discussed thoroughly from all standpoints. The experiences of other workers with the method is discussed and criticisms answered. Dr. Carl Beck has written an introduction to the monograph and Dr. Joseph C. Beck has added a chapter on the use of bismuth paste in the treatment of chronic suppurations of the nasal accessory sinuses and the ear.

The monograph is illustrated with eighty-one engravings, nine diagrammatic illustrations, and a colored plate. It is a book which will appeal to both the specialist and the general practitioner and will be read with much interest. J. Mc W. B.

PATHOLOGY AND BACTERIOLOGY

Edited by Thomas Ordway, M. D. and Harry Bernstein, M. D.

Researches upon the Immunity of the Rabbit against Bacillus Suipesticus (Recherches sur l' Immunite des lapins contre le B. suipesticus).

Shoukevitch. *Annales de la Institut Pasteur, Paris, September* 25, 1910, *Vol. XXIV, No.* 9.

The writer has studied the formation of anti-bodies in the blood of animals inoculated intravenously and subcutaneously with cultures of B. suipesticus. He believes that the immunity is essentially cellular and cannot be explained by the formation of anti-bodies. Subcutaneous infection is much slower and susceptibility more variable.

[Note.—This I have recently found to be the case in rats, in working with B. typhi murium T. O.]

The anti-bodies studied were those (1) producing fixation of the com-

plement (2) influencing opsonic index (3) reaction of agglutination and (4) bacteriolysis. Although in most cases considerable amounts of antibodies were produced, these appeared to have no direct relation to immunity when dead cultures were used. When living cultures, however, were used for inoculation, a moderate degree of immunity was developed, but very small amounts of anti-bodies were found.

Skoukevitch finds that the serum of animals which have not acquired immunity, may, however, preserve guinea pigs from a subcutaneous inoculation and delay death in intraperitoneal inoculation. The great difference between the effects of subcutaneous and intraperitoneal inoculation in guinea pigs, as above mentioned, is believed to be directly dependent upon local phagocytic reaction. So he concludes that the serum of rabbits which have received dead cultures, even though they themselves are not immune, possesses definite, though slight prophylactic properties.

The serum of rabbits immunized against members of this group, B. psittacosis, B. typhi murium and B. paratyphoid B., is considered by certain observers to have marked bacteriolytic properties. Others believe that such properties are slight, or even absent. The methods of testing such properties, however, have varied.

SURGICAL PATHOLOGY

Edited by George E. Beilby, M. D.

The Results Obtained by Autogenaus Vaccines in Various Urinary Infections.

J. T. Geraghty. *Transactions of the Congress of American Physicians and Surgeons, Vol. VIII, 271.*

In order to make an adequate test of the value of vaccines in the treatment of infections of the urinary tract, Geraghty selected thirteen cases which had been under observation for a long time and which resisted all efforts to dislodge the infection. The treatment was not employed on any patient with an acute infection, or in whom the disease was of short duration and the patient only a brief time under observation. Cases of this type the author believes are misleading, for, if improvement or cure results, one is apt to attribute the improvement to the vaccines when they have played absolutely no rôle.

Of the thirteen cases studied, four were renal infections, all due to the colon bacillus, one was a case of double pyelitis, two pyelo-nephritis, and one of bacilluria. Vaccines were prepared in each instance from the patient's own organism and injections from two hundred to five hundred million bacilli given at weekly intervals. No improvement was noted in any case, though the injections were continued from three to six months. In six cases of mild cystitis, the colon bacillus was isolated in pure culture in three, in one the bacillus lactis ærogenes, in another the staphylococcus albus, and in the sixth case the colon bacillus and staphylococcus albus were combined. There were three cases of persistent bacteriuria, in two of which the micrococcus urea was obtained, and in the third one the micrococcus urea and colon bacillus were combined. The author considered that the two cases of mixed infection were particu-

larly suited to test the efficiency of vaccine therapy, for he reasoned that if there was any specificity in the treatment, it ought to be possible by using vaccine prepared from one of the organisms concerned in the infection to eliminate this organism, leaving the other organism behind. Accordingly he prepared a vaccine from one of the organisms. In neither case were any results obtained, though injections were given regularly and varying sized doses employed. Later the other organism was isolated in each case, vaccines prepared and injections given at regular intervals over many months without any appreciable effect. The result where only one organism was concerned was just as disappointing. No attempt was made by the author to follow the opsonic index, as he considered the method too variable to place dependence upon the determinations.

In concluding his study of these cases, Geraghty states that in not a single instance was any improvement produced which could in any way be attributed to the vaccine therapy.

Fibrinogen of the Blood as Influenced by the Liver Necrosis of Chloroform Poisoning.

Whipple and Hurwitz. *The Journal of Experimental Medicine, Vol. XIII, No. 1, Page 136.*

During the course of some experiments on chloroform poisoning in dogs, which the authors were pursuing, they noted that operations upon many of these animals resulted fatally because of uncontrollable hemorrhage. At autopsy they frequently found that the abdominal cavity was full of fluid blood, and, in cases of extreme poisoning, even the blood vessels and heart contained fluid blood and no blood clots. They undertook this series of experiments with the hope of clearing up this feature of chloroform poisoning, but, as the work progressed, it seemed to throw some light on interesting problems connected with blood coagulation and liver function. Briefly, these experiments were interpreted by the authors as indicating clearly that fibrinogen is formed by the liver or that its formation is quite dependent upon the functional activity of that organ. It was clearly shown that fibrinogen in the blood can be made to decrease or almost to vanish at will through the production of liver necrosis by chloroform anæsthesia. Also the drop of fibrinogen is found to parallel closely the extent of liver necrosis, and, in severe poisoning where the liver shows extensive necrosis, the fibrinogen may be practically absent. In this later condition, which is not unlike hemophilia, the animal bleeds steadily from large or small cuts. Moreover, the fibrinogen reappeared in the blood as the liver begins to repair the injury to its lobules and keeps pace with the repair of the liver cells. The repair is very rapid and may be complete in five or six days.

In a former study carried on by the same authors it was shown that the liver is quite capable of repairing the injury done to it by chloroform anæsthesia. Even when the central necrosis of each lobule involves one-half to three-fifths of all the liver cells, the repair begins on the second or third day and is almost complete in six or seven days. The dead liver cells are removed by autolysis and phagocytosis, and the reticulum is filled in by elongation of the cords of liver cells effected by a rapid mitotic division. The end result is a normal liver. If this mechanism

of liver necrosis and repair is kept in mind, it is easy to follow the fluctuation in the fibrinogen content of the blood, as the two are parallel.

The two other factors of blood clotting, thrombin and calcium, were followed in several of the severe cases of poisoning and were found normal. This, they state, is in harmony with observations on the character and formation of the blood clot in these cases. They found that blood drawn from animals poisoned by chloroform anæsthesia will clot in the usual time (four to seven minutes), but the clot is more or less flabby, depending upon the amount of fibrinogen present. In severe cases, the clot may be a filmy net-work which will shrink away from the walls of the cylinder and settle to the bottom, forming a very soft, purplish jelly-like mass of not more than five to ten per cent. of the volume of blood. A glass rod can be passed through it with ease, and the threads of fibrin are very delicate and inconspicuous.

It is obvious that hemorrhage, which may be a marked feature of these cases, is due to an inefficient blood clot and not to the absence of clotting. They found it almost impossible to render an animal's blood quite free from fibrinogen by chloroform poisoning, but easy to damage the liver and lower the fibrinogen content to such a degree that the animal will bleed for hours from pricks or cuts in any tissue. They observed, in general, that these animals do not show a tendency to hemorrhage until the fibrinogen has been reduced ten per cent. The clot would form in the usual time but lacked body and stiffness. As the latter characteristic is dependent on the presence of fibrinogen, the clots are too weak and flabby to close the ruptured capillaries and vessels. Their experiments carried out on twelve or more dogs showed very uniform results and may be briefly summarized as follows:

Chloroform anæsthesia for two hours or more will cause more or less central liver necrosis in dogs, depending upon the length of the anæsthesia and the susceptibility of the animal.

If the fibrinogen of the blood of such an animal be estimated at intervals, it is found that this proteid shows a drop corresponding to the amount of liver necrosis.

By administering chloroform, the fibrinogen may be almost eliminated from the circulating blood, and the poisoned animal may bleed for hours from small skin pricks or cuts.

The liver can recover from a grave injury due to chloroform and return practically to a normal condition in about ten days.

The fibrinogen reappears in the blood as the liver effects its repair. It seems that the quantity of fibrinogen present is a good indicator of the liver efficiency and a fairly accurate index of the amount of liver injury.

In severe cases of chloroform poisoning, the calcium of the blood was normal or slightly increased, and the thrombin was normal.

The hemorrhages of chloroform poisoning are due, not to lack of blood clotting but to inefficient coagulation. The clot has not the body and toughness supplied by the fibrinogen, and is, therefore, unable to check even capillary hemorrhage.

Fibrinogen is either formed in the liver or is wholly dependent upon liver activity for its production.

ALBANY
MEDICAL ANNALS

Original Communications

THE FORMATION OF GALLSTONES

Read before the Medical Society of the County of Rensselaer, at Troy, N. Y., February 14, 1911.

By H. W. CAREY, M. D.,

Troy, N. Y.

Although the whole subject of the etiology and pathology of cholelithiasis has been assigned to me for discussion this evening I find that it covers too large a field for review in the short time allotted for each paper. I have chosen therefore, with your permission, to limit my review to the formation of gallstones because I think it will prove to be of the most interest.

The origin of biliary calculi has been a problem not easily solved. Indeed it has been studied and theorized on as long as the condition has been known. Hippocrates, whose observations and opinions we are wont to consult, was probably familiar with gallstone colic although from his descriptions it is not certain that he made any distinction between biliary and renal colic. To review the various opinions of the early writers regarding the origin of gallstones, while it might be interesting from an historical standpoint, would require too much time. An excellent resumé of the subject will be found in Nothnagel's Handbuch by Hoppe-Seyler and in the historical essay of Muleur on cholelithiasis published in Paris in 1884.

Our present conceptions of gallstone formation have been developed from studies that have been made within the last fifty years. Their chemical constituents and structure have been most clearly described by Naunyn who classifies them as follows:

1. Pure cholesterin stones: Hard, generally round, pure white or yellowish, translucent, smooth and sometimes superficially pigmented. On cross section they are not stratified and are composed of crystals arranged radially with a small brown deposit in the center.

2. Stratified cholesterin stones: These are hard and brittle when dried. The surface is of variable color and often facetted. On cross section concentric layers of variable thickness and color are found. The outermost layer is usually amorphous. The layer near the center shows a crystalline substance radially arranged, the radii extending to the surface. Cholesterin forms 90% of these stones although calcium carbonate and bilirubin and biliverdin calcium are also present.

3. Ordinary gallstones: These are of variable size, shape and color. They seldom exceed the size of a cherry and are facetted. In color they may be yellow, brown or white, less often green. When fresh they are soft and friable but after a time they become dry and shrink. They have generally a cover of concentric layers with a soft fatty nucleus or a central cavity containing a yellowish alkaline fluid. A crystalline structure is never seen.

4. Mixed bilirubin-calcium stones: They are the size of a cherry or larger. One or at most two or three may be found in the gall bladder. They are composed of dark reddish brown layers concentrically arranged. Occasionally there is a small nucleus in the center. They are very hard and when dry they become cracked and fissured. The middle layers consist of cholesterin the remainder is composed of bilirubin-calcium.

5. Pure bilirubin-calcium stones: These occur in two forms and are usually very small in size.

a. Solid brownish black stones—irregular, nodular and soft, occasionally joined together to form larger stones. When dry they shrink in size and become friable.

b. Harder stones, often spindle shaped, showing a metallic lustre when crushed.

6. Rarer forms:

a. Amorphous stones resembling pearls.

b. Chalk stones, very hard with a prickly or smooth surface and often containing a hollow center.

c. Concretions formed around foreign bodies.

d. Casts of the bile passages.

The question that has been the most baffling is the explanation of the exact process that takes place in the gall bladder resulting in the formation of calculi. The earliest theories were inclined to attribute their formation to mechanical changes in

the bile. A coagulation of the bile due to increased heat in the liver was Galen's theory. Later Fernelius in 1554 suggested that a stagnation of the bile, the result of obstruction in the bile passages, was necessary to cause a precipitate of the chemical substances to form stones.

The chemical theory of gallstone formation found its chief exponent in Thudichum who in 1862 found that if the bile became acid as a result of decomposition from stagnation or the abnormal secretion of mucus, the cholesterin and bilirubin-calcium were precipitated because their solvent, sodium glycocholate was decomposed by the change in the reaction into glycocoll, cholalic acid and sodium salt.

Another chemical explanation was suggested by Dochmann (1891) who reported the results of his studies of the bile after ligating the cystic duct producing stasis. He noticed that the bile under these conditions contained an increase in calcium and a diminution in the amount of sodium. The increase in the calcium content diminished the solubility of the bilirubin and led to a precipitation of the bilirubin-calcium and cholesterin. During life a stagnation of the bile was supposed to be induced by prolonged intervals between meals, corset lacing, sedentary habit and other factors with which everyone is familiar.

The rôle of micro-organisms and infection of the gall bladder in the production of gallstones has attracted much attention in the last twenty-five years. First suggested by Gallippe in 1886 there has been an immense amount of work done in investigating this phase of the subject. The belief existed previous to this time that bile exerted an inhibitory action upon the growth of all bacteria, no doubt the result of many unsuccessful attempts to grow bacteria from the bile at autopsy. In recent years however we have come to know that the bile is very frequently infected particularly in infectious diseases of the septicaemic type. Even in infections remote from the gall bladder bacteria may frequently be cultivated from the bile if a sufficient amount is used. The infection of the bile is much more likely to occur when the common duct is obstructed or when there is any hindrance to the free outflow of bile from any cause whatever. (Charcot and Gombault.)

Soon after it became known that bacteria could thrive in the bile the possible relationship of bacillary infection to cholelithiasis was studied with most interesting results. Naunyn (1892) iso-

lated the colon bacillus from five cases of cholelithiasis by puncture of the gall bladder during life. Mieckowski, in a series of twenty-three cases operated for biliary calculi, found that the bile was infected in eighteen. Petersen in fifty cases found bacteria in the bile in forty-four; in thirty-six of these the colon bacillus was found alone. In many other similar series the colon bacillus seemed to be the chief invading organism.

The relation between typhoid infection and cholelithiasis was closely studied after Bernheim called attention to it in 1880. In twenty-two cases of typhoid studied by Chiari the typhoid bacillus was found in nineteen in cultures made from the bile. Cushing was successful in cultivating the typhoid bacillus from the bile in 50% of the patients dying from typhoid fever and in 30% of the patients operated for cholelithiasis a history of typhoid was obtained.

In thirty-two cases of typhoid colecystitis reported by Ehret and Stolz gallstones were present in twenty. These results show how frequently the bile is infected in typhoid fever and what a common sequel of typhoid cholelithiasis is. In the light of our present conception of typhoid as a general infection the presence of typhoid bacilli in the bile is only what might be expected.

The clumping or agglutination of typhoid bacilli in the gall bladder was observed by Richardson who found large clumps of typhoid bacilli like a massive Widal reaction in the bile in five out of six fatal cases of typhoid fever. This was also observed by Cushing.

The length of time that typhoid bacilli may live in the bile following typhoid fever is astonishing. In one case reported by Droba the bacilli were found and cultured seventeen years after typhoid. Hunner found typhoid bacilli in a small pocket of pus situated beneath the right costal margin eighteen years after typhoid.

Following typhoid infection on the other hand gallstones may form with remarkable rapidity. Herz and Adams reported a case occurring within sixty-eight days of the onset. Pratt found calculi in a patient who died in the third week of the disease and Rokitisky found fifty-eight stones in the gall bladder of a patient dying in the third week.

Arnsperger relates an interesting instance in which typhoid fever followed an operation for the relief of gallstones in a

patient who had had typhoid fifteen years previously. The second infection was due in his opinion to an auto-infection in a bacillus carrier.

Added evidence tending to show the close relationship of micro-organisms to the formation of gallstones was found when bacteria were cultivated from the centers of the stones. In 1890 Welch was successful in growing the colon bacillus and the staphylococcus pyogenes from the centers of gallstones and Hanot and Milan in 1896 grew the typhoid bacillus. Similar findings have been made in a large number of instances since then.

It was a natural sequence that these bacteriological findings should lead to efforts to produce gallstones experimentally in animals. Successful results have been attained in many instances. The first successful experiments were reported by Gilbert and Domenici who found a small gallstone in the bladder of a dog after the bile had been inoculated with the colon bacillus. Many other similar experiments with a variety of bacteria are to be found in the literature. Mignot pointed out the necessity of using attenuated cultures in the experimental production of gallstones as the virulent cultures gave rise to an infection too severe to permit the precipitation of the cholesterin.

The recurrence of gallstones in cases operated for cholelithiasis gave rise to the belief that foreign bodies present in the gall bladder might be a factor of importance in the formation of the stones. The cases reported by Homans bear on this point. The operation of cholecystotomy was performed on a patient for the removal of stones. Seventeen months later the symptoms returned and it became necessary to operate again. Seven stones were found at the second operation and five of these were formed around silk ligatures. Numerous similar observations have been recorded since.

To study the effect of foreign bodies in the gall bladder Meyer introduced small ivory balls previously sterilized into the gall bladder of dogs and noted a small amount of sediment deposited about them after one year had elapsed. He did not consider the deposit a true calculus. Mignot introduced foreign bodies impregnated with virulent bacteria and found that an intense cholecystitis followed with a deposit of pus but no calculi were formed. With attenuated cultures and a porous foreign body that could be fixed to the wall of the gall bladder to prevent

its being washed out stones almost always formed. The observation of Richardson may be mentioned again in this connection inasmuch as he called attention to the possibility of the clumps of typhoid bacilli acting as foreign bodies about which calculi might be formed. The frequency with which typhoid bacilli were found in the centers of stones made it quite likely that this supposition was correct.

In order to complete our conception of the relationship between infection of the gall bladder and the formation of biliary calculi it is necessary to describe briefly the paths through which infection may take place. Under normal conditions of life the bile, bile ducts and the ampulla of Vater are free of bacteria. The gall bladder is accessible to invasion of bacteria by two channels; by way of the common and cystic ducts and by way of the portal circulation. A priori one would think that infection by way of the ducts would be the most frequent but it should be remembered that the duodenum, into which the duct empties, is the freest from bacteria of any part of the intestine. Experiments on animals show that so long as the bile flows freely the bacteria do not ascend the ducts. If however an inflammation of the duodenum occurs causing a hindrance to the free flow of the bile bacteria are prone to ascend the ducts and invade the gall bladder.

It is generally believed that infection of the gall bladder is more common by way of the portal circulation. The results of animal experimentation bear on this point. After ligating the cystic and sometimes the common duct in dogs Lartigau fed the animals on cultures of the bacillus pyocyaneus which were later recovered from the bile. Adami believes that colon bacilli are continually finding their way into the portal circulation and are destroyed in the liver. It may be that in infections this property of the liver is impaired by the action of toxines which would allow bacteria to enter the bile. The ulcerative lesions of the intestines in typhoid make the entrance of typhoid bacilli into the general circulation almost certain as has been shown by the results of blood cultures. Once in the general circulation their entrance into the bile is easily understood. Infection through the general circulation may also explain the frequent association of appendicitis and gallstones, the ulcerative lesion in the appendix being the starting point.

We may conclude from the great mass of experimental work that has been done to which it has been possible to make only the briefest mention, that the injection of virulent cultures into the gall bladder produces an acute cholecystitis without the formation of gallstones. If the cultures used are attenuated no change is produced unless another factor is added namely a stasis of the bile. Foreign bodies, including agglutinated typhoid bacilli, by themselves cause no stone formation but if there is superimposed a low grade of cholecystitis, stones usually form. The micro-organisms causing the cholecystitis usually enter the bile by way of the portal circulation although when stasis has occurred they may enter through the ducts.

These studies of the association between bacterial infection of the gall bladder and gallstones were productive of many new facts which were of absorbing interest so much so that the fundamental problem of finding the way in which the gallstones were actually formed, particularly from a chemical standpoint, was for the time forced into the background.

During the past few years attention has been reverted to the chemical side of the problem notably by the work of Kramer in this country and Bacmeister in Freiburg.

In the theory of Thudicum already referred to the precipitation of cholesterin and calcium salts of the bile was supposed to depend on a change in the reaction of the bile resulting from decomposition. The salts being no longer soluble were precipitated to form calculi. In the Klinik der Cholelithiasis of Naunyn published in 1892, which is considered a classic on this subject, the origin of the constituents of gallstones is elaborately discussed. Naunyn attached much significance to the minute doubly refractive myelin droplets seen both in the protoplasm of the epithelial cells of the gall bladder mucosa and free in the bile. Under the microscope he found that the droplets of myelin when heated with acetic acid changed into the characteristic plates of cholesterin. In histological sections crystals of the cholesterin could be seen among the epithelial cells of the mucosa. He attributed the formation of cholesterin to the epithelial cells and believed that after desquamation and degeneration the droplets coalesced and crystallized into cholesterin, just as in pus and sputum cholesterin is formed as a result of cell degeneration.

Four years ago Kramer called attention to the fact that pos-

sibly biliary calculi might be formed in much the same way as urinary phosphatic stones which are known to be due directly to the decomposition of urine by bacterial growth. The growth of bacteria in the bile might in the same way lead to decomposition of the bile and a precipitation of the various bile salts.

In his experiments he used test tubes containing equal parts of human bile obtained at autopsy and alkaline peptone bouillon. This mixture was repeatedly filtered and sterilized and then inoculated with strains of colon and typhoid bacilli and staphylococcus pyogenes. In the staphylococcus tubes the growth was luxuriant but no change in the bile was noted. In the colon and typhoid tubes on the other hand, the bile became cloudy and a precipitate fell to the bottom of the tubes, gradually increasing until at the end of four weeks a closely packed semi-solid mass was seen at the bottom. At the end of six months the supernatant fluid was poured off and a soft gallstone shaped to the bottom of the test-tube was found. The precipitate of which the stones was composed contained all the constituents of biliary calculi;—amorphous calcium phosphate, magnesium phosphate, calcium carbonate, bile pigments, and cholesterin.

In some tubes crystalline cholesterin was added and at once went into solution. In these tubes after inoculation and incubation the cholesterin content of the precipitate was materially increased.

In explaining the precipitation of the bile salts and the formation of calculi in his experiments, Kramer attributed the chief action to the bacterial decomposition of the bile rendering the reaction acid by the growth of typhoid and colon bacilli, both of which are known to be acid formers. This was in accord with the theory of Thudichum expressed in 1862 and explained the frequent association of colon and typhoid bacilli with cholelithiasis.

In the work of Bacmeister in Aschoff's Pathological Institute in Freiburg which appeared early in 1908, the origin of cholesterin from the epithelial cells according to the views of Naunyn is questioned and reference is made to the earlier observations of Aschoff in which it was found that cholesterin stones might be formed directly from bile without any inflammatory changes in the gall bladder. He found that the mucosa of the gall bladder could absorb a combination of neutral fat and cholesterin or cholesteryl oleate which in Adami's opinion may be present

in the form of minute droplets exhibiting the property of double refraction exactly like the myelin droplets. After absorption the cholesterin was split off by the epithelial cells, a chemical process which was supposed to accompany all forms of biliary stasis.

In repeating the experiment of Kramer, Bacmeister used a greater variety of micro-organisms and found that the bacillus proteus and bacillus pyoctaneus were also able to produce changes in the bile leading to the precipitation of cholesterin. In the tubes infected with pyocyaneus the precipitate of cholesterin occurred earlier than with the other bacteria. He proved by using bacteria that were not acid-formers that an acid reaction of the bile was not a necessary factor in the precipitation of cholesterin.

In some of the control tubes which contained only sterile filtered bile and bouillon in equal parts a precipitation of cholesterin was found after considerable time had elapsed. When repeated later with larger quantities of bile the same result was obtained. In short, Bacmeister found that cholesterin might be precipitated in the test tube from normal, sterile, filtered, human bile after standing a sufficiently long time.

The effect of the epithelial cells and bacteria upon the cholesterin precipitation was only to hasten it. The cause of cholesterin precipitation from the bile, therefore, was associated with some chemical change in the bile itself independent of the action of bacteria or other foreign material. He concluded that the precipitate of cholesterin was primarily due to an autolysis of the bile induced by long standing.

In the gall bladder the first condition is necessarily a stasis. There does not need to be any infection. The myelin droplets of cholesterin become confluent and in time as autolysis goes on, they become crystallized into bundles of needles. These form the nucleus of the stone about which the cholesterin is gradually precipitated. As the stasis continues the epithelium of the lining of the gall bladder desquamates, the so-called desquamative cholangitis, and later infection of the bile is favored and very often occurs. This explained in a rational and clear way how it came about that the first one or more stones were composed of cholesterin.

The precipitate of the calcium is caused in another way. It has been found that the mucous glands of the gall bladder

secreted calcium and further that in inflammatory conditions of the gall bladder the number of the mucous glands was increased and caused an increased amount of mucus and calcium which underwent precipitation during the autolysis of the bile.

The sequence of events, then, is first a stasis of the bile, either partial or complete leading to autolysis of the bile and a precipitate of cholesterin. If the obstruction to the free outflow of bile continues for a sufficient length of time, a low grade of inflammation ensues, the so-called catarrh of the gall bladder. This in turn leads to an increased number of mucous glands and an increased secretion of mucus from which the calcium originates. Finally the calcium is precipitated during the autolysis of the bile.

The first stones are composed of cholesterin but as soon as inflammatory changes occur calcium and cholesterin stones form and later in the autolysis of the bile the pigments are precipitated and combine with calcium or not, as the case may be, to form stones of bilirubin or biliverdin-calcium or simple bilirubin stones. The presence of bacteria in the centers of gallstones is limited in Bacmeister's opinion to calcium stones in the formation of which, as has been pointed out, a mild grade of infection and cholecystitis play an important part.

The results of the investigations into the chemical side of gallstone formation have been productive of many new facts and have opened a fruitful field for further research. From the work that has been done it would appear that obstruction to the free flow of bile is the chief factor in causing stones to form and that infection of the bile plays a secondary rôle in the formation of biliary calculi.

THE SYMPTOMATOLOGY AND DIFFERENTIAL DIAGNOSIS OF GALLSTONE DISEASE.

Read before the Medical Society of the County of Rensselaer, at Troy, N. Y., February 14, 1911.

By HERMON C. GORDINIER, M. D.,
Troy, N. Y.

The symptoms of gallstone disease may be briefly classified under the following heads:

(1) Indigestion of a chronic type.

(2) Pain; of which there are three types—dull aching, gallstone colic, referred or reflex pain.

(3) Nausea and vomiting.
(4) Jaundice.
(5) Chills and fever.
(6) Tumor and Riedel's lobe.

Indigestion of a chronic type, consisting of flatulency, hyperacidity, pain and pyloric spasm, the so-called neuralgia of the stomach, is, according to my experience, the most common and the most important symptom complex associated with gallstone disease. It is indeed quite questionable whether neuralgia of the stomach, with spasm of the pylorus, exists apart from ulcer or the crises of tabes without the presence of gallstone disease. Such an eminent authority as Moynihan, in his elaborate and comprehensive treatise on gallstone disease, states that the most cursory examination into the history of a long series of cases treated by operation will show that in almost all the earliest symptoms that for years caused intense suffering is indigestion; and he also states that it requires the unmistakable evidence of jaundice to associate the suffering with gallstones in the minds of all patients and the majority of physicians.

Kehr, in his well-known book translated by our late associate, Dr. William Wotkyns Seymour, says: "I cannot deny the existence of gastralgia, or neuralgia of the stomach, but I am absolutely confident that the majority of the pains which are called cramps of the stomach are gallstone colics." MacKenzie says that the association of persistent dyspepsia with hyperacidity should always make one keen to the presence of gallstone disease. On the other hand, it cannot be denied that we often meet cases with recurring gallstone colic in which the digestive functions are absolutely unimpaired in the interval between the attacks.

Pain is altogether the most characteristic symptom of gallstone disease. It is often of a dull, heavy, boring type, due to over-distension of the gall bladder from an exudate or transudate, or it is of a very severe colic-like nature recurring in paroxysms, and due to stretching and consequent contraction of the gall bladder, or of the cystic or biliary ducts, resulting from the engagement and passage of a gallstone. This colic-like pain may begin gradually and swiftly culminate into the most violent agony, the patient tossing about incessantly, unable to get a quiet moment, until suddenly, either in a few moments or several hours, the stone passes or falls back into the gall bladder and

the pain disappears, only to recur again later on. So severe at times is this pain that the patient becomes greatly shocked; there is marked pallor of the skin and mucous surfaces, and the face and forehead are bedewed with sweat, and the pulse becomes rapid, easily compressible and windy. In other words, there is an abdominal vasomotor paresis. The pain is felt with its greatest intensity either in the epigastric region, a few centimeters below the ziphoid, or in the right upper quadrant of the abdomen, just to the outer side of the right rectus abdominis muscle. The pain often passes to the right shoulder, and frequently to the interscapular region, close to the angle of the right scapula, or its shoots down the right arm to the elbow or wrist and may be followed, as in one case of which I know, by an outburst of herpes in the course of the circumflex, radial and ulnar nerves. In the interval between the paroxysms the patient often complains of a dull rheumatic ache in the high shoulder, which discomfort may be treated a long time for rheumatism or rheumatic neuritis. I have not discussed in my differentiation rheumatism, but the above facts should make us keen to gallstone disease, and when we have to deal with an old incurable so-called rheumatic right shoulder, we should always consider carefully the possibility of the presence of gallstone disease.

It is interesting to note that in a large number of cases of gallstones there seems to be no particular relation between the time of the occurrence of the pain and the ingestion of food. On the contrary the pain more often occurs when the stomach is empty; directly after midnight is a favorable time, the patient being awakened out of a sound sleep by the most agonizing pain. The pain often radiates to the shoulder blade, or the right breast, to the stomach, or all over the abdomen, and occasionally to the left hypochondriac region. Hyperalgesia and tenderness, confined especially to the region of the gall bladder, usually occurs with each attack and remains for several hours or days. Occasionally this tenderness is localized in the upper epigastric region, but it is more often confined to the right upper quadrant of the abdomen, just external to the right rectus muscle. A point of maximum tenderness is often localized midway between the umbilicus and the ninth rib of the right side. This point, however, is in my experience not so absolutely diagnostic for gallstone disease as is McBurney's point for appendicular trouble.

In quite a few of my cases I have not observed it. Another tender point referred to especially by Boas, who considers it of much diagnostic value, is situated in the lower right interscapular or subscapular rgion, just to the right of the twelfth dorsal vertebra. In eliciting these tender points or palpating the gall bladder, or in bringing out hyperalgesia, lightness of touch is very essential.

Nausea and vomiting are quite as common in cholelithiasis as is biliary colic, and both symptoms usually occur together. The vomiting is sometimes very severe and sometimes so unproductive as to place the patient in great peril. The vomiting often continues after the colic subsides, and this is usually the case when the gallstone is impacted in the cystic duct. On the other hand vomiting is often productive of great good, as the severe colic-like pain often quickly subsides from relaxation of the spasm of the gall bladder or ducts from the nausea preceding it.

It is regrettable that such a positive objective symptom as jaundice is such an infrequent symptom of gallstone disease. In over a hundred cases of gallstone disease that I have studied, it has been present in only about one-tenth of the cases. Moynihan states that jaundice is a rare symptom of gallstone disease, and Kehr, Riedel, Mayo Robson, Bland Sutton and the Mayos found it absent in a large proportion of the cases operated on by them. It practically never occurs when the gallstones are confined to the gall bladder and when the pain is due, as is most often the case, to a gallstone engaging in the cystic duct in its effort to escape from the gall bladder. It does, however, occur when the gallstones are in the hepatic or common duct, or it occurs transiently when a stone of some size escapes from the cystic duct into the common duct temporarily and partially occluding it. If the stone absolutely occludes the common duct, then permanent and severe jaundice occurs. Jaundice may also occur if there is an associated catarrhal cholangitis, or the ducts are kinked by perigastric or pericystic adhesions or other extraneous pressure, such as a heavy inflamed gall bladder, inflammatory swelling of the head of the pancreas or a new growth or the narrowing due to a stricture of the common duct.

Persistent jaundice directly following a gallstone seizure is rarely due to any other condition than an occlusion of the common bile duct by one or more stones. The jaundice thus excited is perhaps the most intense and severe that one can witness,

and it continues indefinitely without, at least for a long time, producing cachexia; but after awhile the toxaemia affects the nervous system and symptoms of cholaemia appear. The gall bladder may or may not be palpable when the common duct is occluded by a stone. Usually, as Courvoisier has shown from an analysis of one hundred and eighty-seven cases of gallstone disease with protracted jaundice, contraction of the gall bladder is suggestive of obstruction of the common bile duct due to gallstones, and that dilatation of the gall bladder is suggestive of biliary obstruction by other factors than gallstones. Courvoisier very justly admits, however, that there are some notable exceptions to this universal law. I have seen at least five cases of obstruction of the common bile duct with an enlarged and palpable gall bladder, which at operation was found to be due to obstruction of the common duct by gallstones. In forty per cent. of 116 cases of gallstones and chronic jaundice taken from the literature, the gall bladder was enlarged and palpable. The whole question hinges on the fact whether or no the gall bladder has been the seat of previous severe and recurring attacks of cholecystitis. If such has occurred it will undoubtedly be bound down by adhesions and contracted. In acute cholecystitis with much exudate the gall bladder may be palpable, or else great resistance, pain and tenderness, together with rigidity of the upper part of the right rectus muscle, will occur.

In empyema or hydrops of the gall bladder it is usually easily palpable. I would, however, sound a word of caution in palpating the gall bladder always to use bimanual palpation, and also use great gentleness. No force is allowable, as it will thwart your purpose and even do positive harm to the patient. If the gall bladder is gangrenous it may cause its immediate rupture.

I have been able to palpate gallstones in the gall bladder on two occasions, the diagnosis being confirmed by subsequent operations, one case having been operated by the late Dr. William Wotkyns Seymour and the other by Dr. Harvie. But one can only hope to palpate gallstones that lie in an enlarged thin walled gall bladder, associated with very lax and thin abdominal parietes.

The tongue-shaped process so beautifully described by Riegel and always associated with cholecystitis and gallstone disease is not very rare. I have seen several notable examples of it. It usually overlies the gall bladder and projects from the inner

side of the right lobe from the inner part of the right hypochondriac region, often reaching to the level of or below the umbilicus. I am confident it is often mistaken for an enlarged and inflamed gall bladder. Percussion, while not without value in gallstone disease, is not at all comparable with painstaking and careful palpation. It must be remembered that while normally the gall bladder holds only a few drams, from 8 to 12, it is capable of great distension and often reaches to the level of the umbilicus or even much lower, and may contain several pints of fluid. I remember one case of occlusion of the cystic duct operated on by Dr. Seymour in which nearly two quarts of fluid was removed from the gall bladder, it having reached well into the right iliac region.

Chills and Fever

While chills and fever do not commonly exist with the passage of a gallstone, this symptom is very often observed in gallstone disease, not alone as the result of an infectious cholecystitis, but often due to an acute infectious cholangitis, with stones located in the common bile duct. This condition was long ago described by Charcot and called by him hepatic intermittent fever. The attacks, which are of a septic nature, begin with a single severe or recurring chills, followed by high temperature and drenching perspiration, the temperature rising rapidly and rapidly falling to the normal or below it. These attacks are often accompanied by marked pain and tenderness in the region of the liver, and are frequently accompanied by severe jaundice. They often appear periodically and frequently repeat themselves daily, and hence are often erroneously considered to be malarial.

The urine in gallstone disease, especially at or directly after an attack of biliary colic, is often diminished in amount, of high specific gravity, dark in color, and frequently bile stained, or contains biliary pigments. Biliary pigments are often present in the urine long before the skin or mucous membrances become bile stained. Temporary glycosuria is not so infrequent with gallstone disease and often follows the attacks of biliary colic. It is probably due to a temporary lack of functioning of the pancreas. Indican is never present in gallstone disease without some other complicating condition. The faeces are usually normal unless obstruction to the outflow of bile exists, when they become temporarily or permanently light or clay colored.

They should always be examined after attacks of supposed biliary colic for the presence of biliary calculi. This can easily be done by diluting the faeces with a solution of carbolic acid, 1 to 40, and then passing the mixture through a moderately coarse-meshed sieve. I have been rewarded by the finding of stones in the faeces in several instances of cholelithiasis, where the diagnosis was very obscure. One must, however, be aware of the presence of the so-called pseudo-gallstones that are often recovered from the faeces while patients are taking the olive oil cure. I have on two occasions seen these pseudo-stones, which resemble superficially gallstones, but if one exposes them to a moderate degree of heat they soon melt and thus reveal their true nature.

Differential Diagnosis

In my judgment the keynote to the diagnosis of gallstones and associated inflammatory conditions of the liver, gall bladder and biliary ducts rests with the taking of a most exhaustive case record, together with a searching examination, not only of the parts contained in the right upper quadrant of the abdomen, liver, gall bladder, etc., but of all the organs of the body, including the nervous system. The previous history is very important indeed, indicating, as it may, the fact that the patient has passed through some acute infection—as typhoid, la grippe, septicaemia, colon infections, catarrhal cholangitis, and the like, that may have contaminated the biliary passages and gall bladder, thus exciting foci of inflammation in the gall bladder or biliary passages, with consequent formation of biliary calculi.

In eliciting the symptoms it is essential to determine the exact kind of pain, its severity, the point of greatest intensity, the direction of its radiation, its duration, what relation, if any, it has to the digestive processes, the exact time of day or night it commonly occurs, whether it is followed by hyperalgesia, or tenderness, the exact location of the tenderness, what effect, if any, the attacks have upon the nutrition of the patient, the amount and exact color of the urine, whether the pain has been preceded, accompanied or followed by chills and fever, whether the conjunctivae or skin are bile stained, whether similar attacks have been noted, whether the digestive functions are normal in the interval, and whether small amounts of biliary coloring matter is detected in the urine, which latter is often detected

in the urine long before jaundice of the mucous surfaces of skin is visible. The yellow coloration of the blood serum is an important indication of the absorption of bile and may be detected long before the yellow discoloration of the conjunctivae or skin appears. The absence of an indican reaction, with the presence of symptoms of biliary colic, tends toward gallstone disease as against auto-intoxication processes in the stomach or intestines.

The diseases with which gallstones may commonly be confused are hyperacidity and dyspepsia, gastric or duodenal ulcer, Renal and lead colic, visceral crises of the erthyrematous group, gastric and hepatic crises of tabes, appendicitis, acute hemorrhagic pancreatitis, cancer of the pancreas, right movable kidney with Dietl's crises and intestinal obstruction.

I have sufficiently referred in my introduction to the symptoms of gallstone disease, to hyperacidity and dyspepsia, and the lesson which such a syndrome should teach in making us keen to the possibility of gallstones. I simply wish to emphasize the fact that gastric hyperacidity is a common condition in gallstone and appendicular disease. Dr. M. J. Licthy found hyperacidity present in seventy-five per cent of the gall bladder cases analyzed by him, and Dr. James T. Pilcher has found it present in some three hundred cases of gallstone disease which he has had the opportunity of studying. Gastric hyperacidity is more often due to diseased conditions outside of the stomach than in it, and its presence often indicates the presence of gall bladder or appendicular trouble. Ewald, of Berlin, when lecturing to students used to make the statement that ninety-eight per cent of all diseases with symptoms referable to the stomach, originated outside of it. "William Mayo has recently stated that the stomach has been credited with a host of diseases which it never possessed, and has received an amount of treatment for suppositious conditions that is of little credit to the medical profession." These mistakes have been due mainly to certain fundamental misconceptions as to the function of the stomach, its relation to diseases in general, and especially to those of the digestive tract. I might state in passing that the majority of cases diagnosed as attacks of acute indigestion are either attacks of gallstone colic or appendicular disease. Bland-Sutton states: "That nausea and vomiting frequently occur in cholelithiasis independent of biliary colic and are often due to the impaction of a gall stone in the

cystic duct. They are occasionally the chief symptoms for which the patient seeks relief and often under the impression that the condition is due to some disturbance of the stomach and without any suspicion that the fault lies in the gall bladder. This is by no means an uncommon experience, more particularly when the nausea and vomiting is unassociated with pain or jaundice. Such cases are often mistaken for pyloric stenosis or indigestion."

The differentiation between gastric or duodenal ulcer and gallstone disease is sometimes very difficult and depends upon a most careful survey of all the symptoms. The pain, however, of gastric or duodenal ulcer usually has a perfectly definite relation to the taking of food, coming on in the one soon after its ingestion, or in the other two or three hours later. The pain of gastric ulcer has its seat usually in the epigastric region, a few centimeters above the umbilicus, and has in this region a perfectly circumscribed area of tenderness. James MacKenzie, who has studied the referred pain of gastric ulcer with great care, states that the results of his observation have been to show that though the actual site of the ulcer had no direct relation to the place where the pain was felt, there was a fairly definite relation explicable by the nervous connection of the parts.

In many cases the patient can localize the pain with great definiteness in some limited region, and the skin and deeper tissues may then be hyperalgesic. In such cases I have found that when the ulcer was situated near the cardiac end of the stomach, the site of pain and hyperalgesia were in the upper part of the epigastrium. When the ulcer was in the middle of the stomach the site of pain and hyperalgesia were in the mid-epigastrium, and when the ulcer was at the pyloris the pain was felt at the lowest portion of the epigastrium.

Although occult blood is often present in gastric or duodenal ulcer, it frequently occurs in cholelithiasis, and hence its presence is of no great help in the differentiation. The presence however of hematemesis or melaena in association with other symptoms may be of great help in the differentiation.

The pain of Renal colic usually starts in one or other loin, and proceeds downward and inward in the course of the ureter toward the bladder and is referred to the neck of the bladder or rectum, root, or head of the penis or testicle on that side and is accompanied by vesicle tenesmus and the frequent voiding of small amounts of urine, usually containing red blood

corpuscles. The presence in the urine of red blood cells or pus cells, associated with the characteristic colic-like pain referred to the parts above described, is almost positive proof of the presence of Renal calculi or gravel.

The pain associated with lead poisoning is often of a very severe colic-like nature, generally distributed over the whole abdomen, but occasionally located in the umbilical region. It is usually accompanied by severe constipation, and is the only form of severe abdominal pain, with the exception of that due to tabes and visceral arterio-sclerosis that is associated with high blood pressure. The occupation of the patient, the presence of the characteristic blue or lead line on the gums, the presence of or the previous occurrence of bilateral wrist drop and the finding in the urine of iodide of lead after the use of potassium iodine, clinches the diagnosis. Grawitz, Jenner and Cabot have shown that in lead poisoning marked basophilic degeneration of many of the red blood cells exists, which may be demonstrated by staining with Wright's modification of the Jenner stain.

Professor Osler has very recently directed the profession's attention to attacks of violent abdominal pain often observed with the erythematous group of skin diseases, such as erythema multiforme, urticaria and angio-neurotic edema, presumably due to great distension and swelling of the intestines. To these attacks he has given the name of the visceral crises of the erythematous group. In several of the cases which Osler reported, operations had been done for supposed appendicular and other troubles. The only case which I have seen of this type has recently been in my service at the Samaritan Hospital. The patient was a young girl who had had her appendix removed while in what she states was the same sort of an attack as the one in which I found her. She was suffering from excruciating abdominal pain, with much abdominal distension and tenderness in the region of the umbilicus and whole right side of the abdomen. Shortly after coming into the hospital she developed a beautiful multiform erythematous rash, distributed over the extensor surfaces of the forearms, and also about the shoulders, back and chest. Into the center of some of the lesions distinct hemorrhages occurred. It was necessary to control her pain with anodynes, but the whole condition quickly subsided with the use of calcium salts. She remained well for about two weeks, when a second similar attack occurred, which was relieved in the same way.

The visceral crises of tabes, particularly of the gastric and hepatic form, simulates gallstone colic very closely indeed. I recently saw a case that was about to have his abdomen opened by a surgeon for supposed cholecystitis and gallstone disease. The diagnosis of tabes had not been thought of, despite the fact that the patient had marked inco-ordination, Rombergism, Argyll-Robertson's pupils, loss of the patella tendon and *tendo, Achilles'* jerks, and marked hypotonia. It was simply a case not of lack of knowledge but a lack of painstaking examination. One point of great diagnostic value which has recently been brought out by Prof. Pal in Germany, and Prof. Barker in America, is the increased blood pressure which occurs in this condition. This hypertension, coupled with the absence of the light reflex and loss of the patella and tendo, Achilles' jerks, should make the differentiation simple.

I shall not attempt to differentiate intestinal obstruction, appendicular disease or right movable kidney with Dietl's crises, as they are already very familiar. I shall simply state that appendicitis and gallstone disease frequently co-exist and are often found together by the surgeon. It is also a well established fact that cholecystitis and gallstones occasionally excite intestinal obstruction.

To distinguish between cancer of the head of the pancreas and a gallstone in the common duct, completely occluding it, is very difficult and sometimes absolutely impossible without the aid of an exploratory operation. The presence of chronic jaundice which does not fluctuate, accompanied by an enlarged and distended, somewhat movable and easily palpable gall bladder, which is not especially tender, together with a resistance in the epigastrium just to the right of the median line, with cachexia, is highly suggestive of carcinoma of the head of the pancreas. The presence of dark pigmentation of the skin, the result of chronic bile staining, resembling somewhat superficially the coloration of Addison's disease, together with the presence of fatty stools and ascites, is also highly suggestive. I have on the other hand seen several cases presenting all of the above described symptoms, ascites excepted, found at operation to be due to a stone in the common duct close to the ampulla, with inflammatory thickening at the head of the pancreas.

I will in closing briefly allude to acute pancreatitis, inasmuch as it is an occasional complication of gallstone disease of great gravity and with its early recognition comes the only hope of

recovery, namely, prompt surgical intervention. Acute hemorrhagic pancreatitis is nearly always associated with and indirectly caused by cholelithiasis. Clinical studies and post-mortem findings show that in most cases of acute pancreatitis, gallstones have been found in the common bile duct, and in not a few a single stone has been found in the diverticulum of Vater, occluding its duodenal opening, thus converting the common bile and pancreatic ducts into one continuous channel, bile entering the pancreatic duct or pancreatic secretion the other, depending upon which side the pressure happens to be the greater. As the pressure is periodically, greater in the common bile duct, owing to the contraction of the gall bladder, the bile which is often at such times infected, is directly propelled into the pancreatic ducts, occasionally exciting acute hemorrhagic pancreatitis and fat necrosis.

The symptoms of acute pancreatitis usually begin abruptly without fever, or with a sharp febrile reaction and excruciating pain located in the upper abdomen, particularly in the epigastric or hypochrondriac regions. This pain is accompanied or followed by all the symptoms of shock, with faintness and collapse. There is much distension of the upper abdomen, rigidity of both recti muscles, marked tenderness and resistance in the above mentioned regions. Vomiting is an early and very severe symptom, and a variable degree of jaundice is usually present.

In the only cases which I have observed, two in number, the above described symptoms were very marked, the patients appearing much as do those who have suffered from a ruptured tubal pregnancy with much hemorrhage. The pain of acute pancreatitis, however, is much more severe and continuous.

THE INDICATIONS FOR OPERATION, COMPLICATIONS AND SURGICAL TREATMENT OF GALLSTONES.

Read before the Medical Society of the County of Rensselaer, at Troy, N. Y., February 14, 1911.

By J. B. HARVIE, M. D.,

Troy, N. Y.

There is no condition of the upper abdomen which comes to our notice so frequently as cholelithiasis.

When a gallstone enters the common duct well-marked colic is almost inevitable. The duration of the pain will depend on

the length of time it takes in its transit and also the number of calculi going through.

A calculus which tests the capacity of the duct will necessarily travel slowly and create greater pain and traumatism than smaller ones, and is more apt to become arrested in the duct, leading up to an obstinate or even a permanent obstruction. It may be said with a fair degree of positiveness that calculi which are capable of passing through the bile channels are the ones that come into prominence most decidedly and give rise to the unmistakable symptoms with which we are so familiar. The large stones which must remain in the gall bladder and cannot engage in the cystic duct will simply occasion discomfort proportionate to the resulting local disturbance. It is seldom that a hard attack of pain—lasting several hours—fails to be followed by more or less jaundice, which is due not so much to the temporary obstruction caused by the stones as the occlusion to the duct resulting from the traumatism. The duration and intensity of the jaundice will depend on the resulting inflammation in the bile channels and the length of time necessary to regain their patency. Repeated attacks of gallstone colic are liable to be followed by permanent injury to the bile channels, and in a certain percentage of the cases followed by stricture.

The many instances in which gallstones remain quiet, that is fail to create prominent disturbances, will constitute a good large percentage. This is sufficiently brought out at autopsies, and in cases where the abdomen has been opened for other reasons, gallstones being found.

If for some unknown reason a gall bladder filled with calculi should give rise to no disturbance and no local tenderness their recognition would, of course, be impossible unless discovered in some accidental way, but it is more than probable that their presence would be manifested by some digestive discomfort, such as nausea or occasional vomiting, cramps, spasms, and uneasiness on deep inspiration. A careful inquiry into the history of those cases will usually substantiate this statement.

When a striking colic ushers in an attack generally no difficulty is experienced in diagnosing the case, but we have so many grades of discomfort to deal with of an indefinite kind that one may find it necessary to submit a patient to many careful investigations before definite conclusions can be arrived at, and we may as well admit that in a certain small percentage

the diagnosis will be speculative. The family physician who has charge of the case and has an opportunity to observe his patient under all circumstances possesses greater opportunities of settling those difficult propositions. When one analyzes their cases of cholelithiasis carefully, which have been verified by operation, a history of jaundice, and colic severe enough to demand morphine, will be wanting in a large percentage of the cases, so that their absence proves nothing.

The palpation of the abdomen should be painstaking and deliberate. Very often we attempt too hurried an examination and fail to determine anything. Those patients are nervous usually; they are afraid of being hurt and will mislead the examiner. When the gall bladder is tender the patient hesitates to take a deep inspiration. When the fingers are hooked up deep beneath the right costal arch below the liver border, the diaphragm being forced down pushing the liver and the sensitive gall bladder with it until it comes in contact with the examining fingers, inspiration is suddenly shut off. This sign will seldom be absent in cholecystitis, or in affections of the gall ducts. The more acute the trouble the more sensitive the organ. The outline and the general sensitiveness of the liver will be more definitely determined by the aid of the left hand under the loin while the fingers of the right hand are hooked up under the lower border of the ribs. If any local peritoneal involvement exists spasm of the right rectus muscle is invariably present.

When a gallstone is too large to pass through the bile ducts it must either remain in the gall bladder or become wedged in the cystic or the common ducts, or ulcerate through the gall bladder wall into the peritoneal cavity, stomach, or an intestine. Or the gall bladder may form an attachment to the parietal peritoneum and by a process of liquid necrosis escape through the abdominal wall. I have seen two such instances where stones have escaped through the abdominal wall. Very large stones seldom get beyond the cystic duct, and when they travel further and become arrested in the common duct an intense jaundice must surely follow.

A gallstone becoming lodged in the cystic duct may allow the gall bladder to gradually contract on it, remaining fairly quiescent, giving rise to no prominent disturbance, the gall reservoir being completely empty, or if infective material should

be present the plugging of the cystic duct by converting the gall bladder into a closed sac would surely set up cholecystitis and possibly suppuration.

The gall bladder seems to possess a wonderful tolerance to the presence of calculi when drainage can be carried on in a satisfactory way. The gall ducts escaping any serious plugging. But the presence of gallstones in the gall bladder or the bile ducts, whether quiescent or not, will invariably constitute a menace to the individual, their passage through the channels giving rise to the most distressing pain, and if arrested in the common duct will lead up to a state of invalidism during its continuance, and through infection may establish cholangitis. The presence of tenderness over the gall bladder if diligently sought for will constitute one of the most persistent and valuable diagnostic signs. It seldom fails to be present where cholecystitis, even in its mildest form has once existed, and it may be said to possess the same significance to cholecystitis and cholelithiasis as tenderness over the vermiform appendix bears to appendicitis.

The indications for operation may be said to be established when the presence of gallstones has been determined with a fair degree of certainty. When once formed they are sure to stay and sooner or later we may expect complications calling for intervention under circumstances most unfavorable to the patient. That the clinical symptoms occasionally fail to furnish the positive information sought is of course known to us all and constitutes a condition under which the attending physician and the surgeon should come together in the closest relationship. The frequent and continued attacks of cholelithiasis requiring morphia for its control, have been accountable for many a morphine habitue, and may well be considered among the most obstinate and difficult complications to combat.

Under the head of complications I shall refer only to those with which I am personally familiar and which I have been called upon to treat.

First—The effect on the common duct of the traumatic influences caused by the passage of irregular angular shaped stones producing abrasion, ulceration and injuries frequently leading up to stricture. This is the most obstinate and unsatisfactory complication to meet inasmuch as the obstruction is permanent and cannot be relieved except by the objectionable operation of

cholecystenterostomy. The anastomosing of the gall bladder or common bile duct with a loop of intestine except as a last resort must only be mentioned to be condemned. A communication between the gall bladder and bowel will permit of sufficient interchange between the two to keep up a chronic cholecystitis and eventuate in liver changes and infection of the hepatic ducts.

Second—Impaction of a stone in the common or hepatic ducts. This condition calls for the most careful manipulation. The securing of the stone by grasping the duct with properly constructed clamps and incising it carefully in its long axis so that the least possible injury may come to its calibre. The important relationship which the ducts bear to the large vessels requires most cautious handling. If the stone is large the incision in the duct will require suturing, but if small it may be trusted to take care of itself. With the aid of the clamp a good sized stone will escape through a moderate opening and the recoil will almost effect its closure. If suturing can be avoided it is best left undone.

Third—Cholecystitis.

This may assume a variety of forms depending on the character of the infection, whether associated with gallstones or not and whether the cystic duct remains pervious. In the acute catarrhal form if drainage is not interfered with to too great an extent we may look for an amelioration of the symptoms. If not it may pass on to the suppurative form (Empyema of the gall bladder), particularly if associated with cholelithiasis. Here we have a distinct tumor often evident on inspection, moving up and down with expiration and inspiration. On palpation the tumor is rounded in outline, smooth and usually movable laterally. Its up and down movement with expiration and inspiration is also very marked. This condition is liable to come up suddenly, acting much in the same manner as acute suppurative appendicitis. I have seen patients whom a few hours before the sudden onset of symptoms were apparently in perfect health.

Gangrenous cholecystitis in which the gall bladder walls become destroyed occurs as a most acute infection with well-marked symptoms of acute local peritonitis. There is usually no tumor present but the local symptoms and the constitutional disturbances would suggest the presence of a most anxious condition.

Ulcerative cholecystitis in which an acute perforation of the gall bladder occurs can scarcely be differentiated from the gangrenous form without perforation except the sudden shock at time of rupture soon to be followed by general peritonitis in the former, otherwise in both instances the symptoms are almost identical and call for the most energetic and prompt intervention.

A gall bladder so infected may form an attachment to the parietal peritoneum and by a gradual process of ulceration find its way through the abdominal wall. Or by attaching itself to any of the hollow viscera may drain itself. I have known instances where large calculi have found their way into the intestinal tract from the gall bladder, and in one particular instance give rise to acute intestinal obstruction. The case to which I refer occurred in the practice of Doctor English of this city, in which he made a diagnosis of acute obstruction of the bowels. The patient was about to be transferred to the hospital for operation when the obstructive symptoms were relieved by the passage of a large concretion.

The indications for operation may be briefly summarized as follows:

1st. Cholecystitis, either acute or chronic.
2d. A palpable tumor of the gall bladder.
3d. Persistent jaundice, especially if ushered in by pain.
4th. Gangrene of the gall bladder.
5th. Rupture of the gall bladder.
6th. Suppurative cholangitis.
7th. A tumor in the right upper quadrant of the abdomen changing its position on deep inspiration and expiration.
8th. Frequent attacks of acute indigestion unassociated with retention of gastric contents or hyper secretion.

Regarding operations on the gall bladder and bile ducts I shall assume that you are eminently familiar with the technic leading up to surgical intervention. The only point to which I wish to refer in the preliminary preparation of the patient is the necessity of a proper cleansing of the mouth and teeth and a thorough gastric lavage. In fact in any operation requiring the administration of an anesthetic the proper attention to the mouth and teeth should be considered among the details in the preparation. The position of the patient on the operating table is a matter of very great importance. A sand bag the width of operating table and having a depth of three or four

inches, depending entirely on the size of the patient, is placed under the patient's back on a level with the liver. This maneuvre causes an arching of the spine, elevates the liver, gall bladder and bile ducts, and permits the floating contents of the abdomen to gravitate towards the pelvis.

The preliminary incision which I am in the habit of adopting and which seems to facilitate an easy approach to the gall bladder and gall ducts, is through the sheath of the right rectus muscle, beginning near its costal attachment, carrying it down a sufficient distance to permit of a satisfactory exploration. The advantages of this incision are that it may be carried down any distance, or carried up toward the epigastrium if conditions require it.

After a proper investigation has been made of the gall bladder and ducts, adhesions separated, the vermiform appendix may be examined and if involved removed. The appendix must invariably be removed when necessary before any operation is done on the gall bladder or the gall ducts, otherwise we are sure to add to the possibilities of an infection.

In an ordinary operation on the gall bladder with cholelithiasis the first step in the proceeding consists in the evacuation of the liquid contents of the gall bladder. This is done by means of an aspirator. If gall stones are present a proper incision is made, the incision extending through the puncture made by the aspirating needle, and by the proper use of scoops the gall stones are picked out of the gall bladder with the least possible traumatism to its mucosa. When we are reasonably sure that all the gall stones have been removed in this way it is wise to irrigate the gall bladder with a salt solution. This removes all debris or coagulated lymph, which if allowed to remain may constitute an exceedingly important factor in their reformation.

When the gall bladder has been thoroughly evacuated of its abnormal contents the next step in the management of the case, whether the gall bladder shall be sutured to the abdominal wall, constituting the operation known as cholecystostomy and the insertion of a drainage tube, or its closure dropping it back into the abdominal cavity without drainage, known as cholecystendysis, or its removal which is known as cholecystectomy.

Regarding the operation of cholecystostomy, it permits of the drainage of the gall bladder and the bile channels until a healthy condition of the entire tract results. In addition to this, if

subsequent operations should ever be required it will be a great comfort to know that the gall bladder has been spared at the former operation.

Regarding cholecystendysis, or the closure of the gall bladder after the removal of the gall stones. dropping it back into the abdominal cavity has not met with special favor. Theoretically it is the ideal proceeding. Practically it is unsatisfactory. First, on account of the dangers from the leakage of bile, setting up an infection, and second, the failure to remove the causes leading up to the original difficulty. I have only done this operation once in what I considered to be an ideal case for its application, and was called upon in the course of a year to reoperate for a recurrence of gall stones, removing at the second operation over two hundred calculi.

Cholecystectomy should never be performed where we are reasonably sure that the gall bladder will return to its normal condition and must be reserved for the instances in which we are dealing with a gangrene of the gall bladder or a diffuse infection, which would suggest a regeneration to the normal highly improbable.

Gangrene of the gall bladder and rupture of the gall bladder will call for cholecystectomy in a large percentage of the cases. In suppurative cholangitis the preservation of the gall bladder is a matter of vital importance inasmuch as drainage can only be carried on satisfactorily through this appendage.

In a gall bladder with purulent contents—hydrops of the gall bladder, or mucocele, where we have a permanent stricture of the cystic duct, the removal of the gall bladder will undoubtedly be imperative, inasmuch as a permanent fistula is likely to remain, and where extensive calcarious deposits have occurred in a gall bladder wall its removal will also be necessary. In a gall bladder case which I operated for Doctor Leonard of Cambridge the whole organ was calcified, resembling an egg shell. In this gall bladder there were no gall stones, the cavity being filled with broken down grumous material.

In operating for cholelithiasis, after the complete evacuation of the gall bladder, a most careful search must be made of the ducts. This can be greatly facilitated by rotating the liver, bringing the gall bladder, the hepatic, common and cystic ducts into the line of incision. This will facilitate very greatly the inspection of all the channels. It is surprising how frequently

stones are found rolling in the common duct in the absence of jaundice, and if allowed to remain a permanent fistula is bound to follow cholecystostomy.

A tumor in the right upper quadrant of the abdomen will occasionally give rise to more or less uncertainty in diagnosis. A long standing empyema of the gall bladder of large size may become so adherent to the surrounding parts that little or no mobility can be determined on manipulation. It is true that the line of dullness will lead up to and be continuous with the liver dullness; but the transverse colon occasionally has the faculty of insinuating itself between the gall bladder and abdominal walls, making this diagnostic feature more or less uncertain.

A tumor of the right kidney—pyo-nephrosis or the congenital cystic kidney—may plant itself in such a way that uncertainty will surround the diagnosis. I have had cases referred to me with diagnoses of kidney tumor which upon careful examination proved to be distended gall bladders. A case which I saw a year or so ago, congenital cystic kidney, simulated very closely a distended gall bladder. The lower pole of the kidney had a congregation of cysts which projected towards the median line of the abdomen and was hooked up like a crescent, making the clinical diagnosis rather suggestive of a large gall bladder. This kidney possessed some mobility on expiration and inspiration. The examination under ether, however, led to a change in the diagnosis and the kidney was removed.

Persistent jaundice, especially if ushered in by pain, may be regarded as highly significant of the presence of a gallstone in the common duct. Jaundice coming on insidiously without pain is no determining factor in the diagnosis that cholelithiasis does not exist. We are then confronted with the problem of differentiating between obstructive jaundice due to cholelithiasis, and obstructive jaundice due to a new growth. This at times is difficult and will constitute the closest clinical investigation for its differentiation—and even then only an exploratory laparotomy will tell the tale. The one determining factor in making our diagnosis will frequently hinge on the distension of the gall bladder which we often find in cancer of the head of the pancreas, or in the diverticulum, and the almost invariable shrinkage of the gall bladder in gall duct obstruction. This is a fairly common entity, although I have met with cases in

which the gall bladder was distended in common duct obstruction and shrunken in malignant disease.

I have taken the cases, thirty-three in number, on which I have operated from the first day of October, 1909, to December the 31st, 1910. Those cases embrace most of the complications ordinarily encountered in operations on the gall bladder and gall ducts. The ages of the patients ranged from twenty-nine to seventy-five years. Of this number 22 suffered from gallstone colic, 11 of the cases gave no history of pain sufficiently severe demanding the administration of an anodyne, 16 had well-marked jaundice, 17 never had jaundice. Nine presented a well-marked tumor on examination, with purulent or mucopurulent contents, ranging from two to five ounces. The gall bladder was drained in all except one. In this case the gall bladder was removed. Its walls were so friable and soft that no hope of its restoration to normal could be entertained. Seven of the 33 cases had stones in the common duct. In one case as many as seven stones, with no stones in the gall bladder. Two of the cases were brought to the hospital, having been taken suddenly ill with severe pain in the right upper quadrant of the abdomen, rapidly extending to the general peritoneum. A history of long standing gallstone attacks was elicited in both instances.

In one case sent to me by Dr. Gordinier—with a diagnosis of probable perforation of the gall bladder—on opening the abdomen a large quantity of bile-stained fluid escaped. The gall bladder was perforated on its posterior wall, many gallstones were lying free in the upper abdomen.

The second case was sent to me by Doctor Keenan, with a gallstone history of over twenty years, who also made a diagnosis of probable rupture of the gall bladder. On opening the abdomen pus escaped very freely and many gallstones with it, altogether over 200 being collected. There was a very angry peritonitis.

In another instance the gall bladder had perforated but was walled off by the transverse colon, omentum, and pylorus. When the adhesions were separated a single large gallstone was found, surrounded by a few drams of pus. The gall bladder in this case could not be sutured to the abdominal wall and a glass tube was introduced with capillary drain.

Among the operations there were twelve men and twenty-one

women. Eight of the whole number giving a definite history of enteric fever. One of the cases of which I have personal knowledge extended over a period of twenty-five years, during which time she suffered many attacks of pain, followed by jaundice and prolonged disability. This patient died eight days after operation, undoubtedly from chronic pancreatitis. The pancreas was found enlarged and nodular at the time of operation.

The only other instances in which death followed operation were those complicated with malignant disease. Of those there were three in number. Each of the cases having gall bladders palpable through the abdominal wall, giving a definite history of repeated attacks of gallstones. Gallstones being found on exploration. Those three cases perished. One on the twelfth day, fourteenth day, and the third several weeks after operation.

Clinical and Pathological Notes

Bender Hygienic Laboratory Notes.

Case Reports of Syphilitic Infection. By Harry S. Bernstein, M. D., and Ellis Kellert, M. D.

The cases to be cited are noteworthy, for not only do the laboratory methods involved corroborate clinical findings, but also help confirm the diagnostic value of such in syphilitic infections. The case is that of a woman aged twenty-eight years. She has been married eight years and has been pregnant four times. In the first two pregnancies she went to term but was delivered of still-born infants. In the last two, labor was induced at about the seventh month, but the third child lived six weeks and the fourth two months and nine days after delivery. The patient has always been free from illness and denies venereal history. Hearsay, however, admits other possibilities.

The last child came to autopsy, and it revealed nothing remarkable other than the condition of the liver. This organ weighed one hundred and twenty grams and extended two finger-breadths below the costal margin. The external features were negative and the consistence was somewhat increased. On section, the liver substance was studded with numerous pinpoint areas of distinct yellow color. Some were slightly elevated.

There was also a slight variation in contour from circular to ovoid. The maximum diameter of the opaque yellowish areas was one millimeter.

On microscopic examination, the normal hepatic cylinders and lobules are missing. The liver cells appear shrunken and are undergoing retrograde changes. Few coalesce and these form small islands irregularly scattered in a loose meshwork of connective tissue. The sinusoids contain a small amount of blood and are compressed by the marked increase of connective tissue. The portal canals show a similar increase with an infiltration of lymphoid cells. In addition there are many foci in which the liver cells are necrotic; and among them there is slight polymorphonuclear reaction. The cells appear as shadows, and within the cell-walls the protoplasm forms a granular debris. Some nuclei are swollen and distorted; the chromatic material is unstained. Other nuclei, though less numerous, are shrunken and stain diffusely. There is also a moderate amount of nuclear fragmentation. This condition is consistent with a chronic interstitial hepatitis. Sections of the liver, stained by Levaditi's method, that of silver impregnation, show the treponema pallidum. The organisms are most numerous within the liver cells, the number varying from four to ten spirochaetes in a single cell. In many cells the organisms extend across the entire width, and show their sharp, deep spirals.

The serum test for syphilis was next applied in the case of the mother. The Noguchi modification of the Wasserman reaction was employed and was found positive. The father, on questioning, admitted that eight months after his marriage there developed a single lesion on his penis. His physician diagnosticated it as "chancre." Treatment was followed for a few weeks until the lesion disappeared. The serum reaction in his instance was also found positive, though seven years had elapsed since the primary infection.

The history of repeated miscarriages in the case of the mother, a positive Noguchi reaction in the parents, the presence of innumerable spirochætes in the liver, associated with an interstitial hepatitis in the infant—all form a definite entity. It demonstrates, on the one hand, the diagnostic value of the serum test, and on the other hand, the etiological relationship of the treponema pallidum in syphilis.

Editorial

> Nay, the increase of those creatures that are bred and fed in the water are not only more and more miraculous, but more advantageous to man, not only for the lengthening of his life, but for the preventing of sickness; for it is observed by the most learned physicians, that the casting off of Lent, and other fish days, which hath not only given the lie to so many learned, pious, wise founders of colleges, for which we should be ashamed, hath doubtless been the chief cause of those many putrid, shaking intermittent agues, into which this nation of ours is now more subject, than those wiser countries that feed on herbs, salads, and plenty of fish; of which it is observed in story, that the greatest part of the world now do. And it may be fit to remember that Moses appointed fish to be the chief diet for the best commonwealth that ever yet was.
>
> IZAAK WALTON.
>
> *The Compleat Angler.*

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Alumni Day, 1911.

Activities in the college world have been nowhere more noticeable than in our Medical Department, and many suggestions looking towards further usefulness and work are now under consideration. An interesting and instructive announcement has been issued to the graduates of the College in preparation for the Annual Reunion to take place this month. This may be regarded as preliminary to the program of Alumni Day, and is well worth the attention of every alumnus of the College:

On May 16th, 1911, The Albany Medical College will hold its eightieth Commencement. As part of the regular exercises of the day, the Alumni Association will hold its thirty-eighth annual meeting. There are a number of reasons why this meeting will be materially different from those of previous years. For some years past many problems connected with the future of the Medical College have been studied and discussed with increasing earnestness. Events of the past six months have put an end to discussion and made action imperative, and we are now confronted with conditions instead of theories. As the Alumni of the College are those who are most interested in its future,

they should consider it a privilege as well as a duty to keep themselves informed of its progress. It seems timely, therefore, to present to the Alumni individually a brief statement of the present status of affairs.

1st. Numerical Growth of the College During Past Fifteen Years by Five Year Periods.

Year:	1900	1905	1910
Number of Matriculants	124	172	196
" " Students	120	165	192
" " Graduates	26	52	41
" " Professors	13	15	18
" " Clinical Professors	4	6	10
" " Adjunct Professors	5	1	2
" " Lecturers	4	13	12
" " Instructors	20	18	29
" " Clinical Assistants	6	25	31

That the College is making every effort to increase its efficiency is shown by reference to the comparative growth of the student body and the teaching force as seen in this table. In 1900 there were 51 instructors of various ranks to 120 students, a ratio of 1 to 2.45. In 1910 there were 102 instructors to 196 students, a ratio of 1 to 1.92.

2nd. New Buildings.

New and adequate buildings in a more favorable location have been for years past the hope of every graduate of the College. Until very recently this has been a hope with but small promise of fulfillment. Now, however, the situation is radically changed. The County officials, late in 1910, condemned the present Penitentiary and will, at the earliest possible date, erect a new building in a different locality. Realizing that the site of the present building—on Delaware Avenue, within five minutes' walk of the Albany Hospital, the Alms House, the Orphan Asylum and the Bender Laboratory—would be an ideal location for the Medical College, the authorities immediately made application to the Board of Supervisors for the use of these grounds for the erection of new College buildings. It was found necessary to place this matter before the Legislature before the Supervisors could act. A bill has been introduced in the Legislature, has passed

the Lower House, and there is every indication that the Senate will take favorable action. As the Governor has expressed himself as favoring the plan, there is no doubt that within a short time the Medical College will find itself in possession of a beautiful and adequate building site.

3rd. Financial Situation.

Lacking endowment, and striving always to keep abreast of all movements tending to increase the efficiency of medical education, the Medical College has no resources of any size on which it can draw for a building fund. The salaries of the rapidly increasing teaching staff already noted, and the addition of new courses and expensive equipment such as the Physiological Chemistry Course demands, have made it impossible to deflect funds from the yearly income to provide for visionary buildings. Nevertheless a fund now amounting to $6,000 has been in the treasury for some time past; and has been regarded as the nucleus of a building fund. As soon as it became known that there was immediate opportunity for new buildings, the entire teaching staff voted to serve this year without salary, the money thus available to be used for the building fund. This sum will amount to about $18,000.

Shortly after this action was taken, the entire community was shocked by the death of Dr. Willis G. Macdonald, for many years Professor in the Medical School and honored throughout the state as a valued citizen. So widespread was the grief caused by his untimely death that it seemed fitting that some public memorial be undertaken. Committees were appointed, it was decided that a laboratory to be known as the Willis Goss Macdonald Memorial Laboratory would be the most appropriate form for the memorial to take, and the subscription lists were thrown open to the public. Already over $18,000 has been subscribed.

Various bodies of the Alumni of the College have from time to time pledged between $5,000 and $10,000 for new buildings.

We may therefore say that there is practically in hand a building fund of about $50,000, which is enough to justify the commencement of building operations as soon as the site is available.

4th. Alumni Association Representation on the Board of Trustees.

Recognizing the fact that the interests of all the College would best be served by close and cordial cooperation of all those interested in these approaching changes, preliminary steps have been taken toward obtaining official representation of the Alumni Association on the Board of Trustees of the Medical College. At the last meeting of the Executive Committee of the Alumni Association a sub-committee was appointed by the President with instructions to confer with the Board of Trustees and the Faculty in regard to this matter. A preliminary conference has been held at which the subject was thoroughly discussed, and the representatives of the Board of Trustees have taken the matter under favorable consideration.

5th. Correct Addresses.

In order that the Alumni may be kept more closely in touch with these many changes already under way, and with others to come, it is essential that the addresses of the individual members be accurately kept. Alumni are requested to fill out the missing or incomplete addresses as far as possible.

6th. Summary.

It must be at once evident to all who have given the preceding paragraphs attention, that the Albany Medical College is not only in more vigorous condition than ever before, but is at last entering on a new phase of its life that promises even greater things for the future than have been accomplished in the past. Necessarily, only suggestions and outlines have been possible in this letter. Not only these, but many other things of vital importance will be discussed in detail at the meeting in May. Alumni are urged to make every effort to attend this meeting in order that whatever course of action may there be decided upon, will be truly representative of the desires of the Alumni, and that the Committee may proceed with its work encouraged by visible evidence of interest and loyalty to the College.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, MARCH, 1911.

Deaths.

Consumption	25
Typhoid fever	0
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	0
Grippe	5
Diarrhoel diseases	2
Pneumonia	17
Broncho-pneumonia	3
Bright's disease	16
Apoplexy	14
Cancer	7
Accidents and violence	12
Deaths over 70 years	43
Deaths under one year	16
Total deaths	205
Death rate	24.12
Death rate less non-residents	20.12

Deaths in Institutions.

	Resident.	Non-Resident.
Albany Hospital	16	5
Child's Hospital	1	2
County House	4	4
Homeopathic Hospital	4	2
Hospital for Incurables	3	1
Little Sisters of the Poor	0	1
Home for the Aged	1	0
Public Places	4	3
St. Margaret's Home	1	2
St. Peter's Hospital	10	8
Austin Maternity Hospital	1	0
Albany Hospital, Tuberculosis Pavilion	6	1
Confederation of Labor	0	0
Totals	51	29
Births		128
Still births		7

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation there were two hundred one inspections made of which eighty-seven were of old houses and one hundred fourteen of new houses. There were fifty-four iron drains laid, thirteen connections to street sewers, sixteen tile drains, one urinal, seventy-three cesspools, ninety-five wash basins, ninety-eight sinks, eighty-three bath tubs, eighty washtrays, two trap hoppers and one hundred nineteen tank closets. There were one hundred seventeen permits issued of which ninety-two were for plumbing and twenty-five for building purposes. There were fifty-five plans submitted of which nineteen were for old buildings and thirty-six were for new buildings. Forty-four houses were tested, three with peppermint and forty-one water tests. Forty houses were examined on complaint and thirty-eight were re-examined. Twenty-two complaints were found to be valid and eighteen without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	3
Scarlet fever	10
Diphtheria and croup	0
Chickenpox	3
Measles	50
Whooping-cough	0
Consumption	31
Total	106

Contagious Disease in Relation to Public Schools.

	D.	S. F.
Public School No. 3	1	.....
Public School No. 4	....	1
Public School No. 11	....	1
Public School No. 20	2	.....
Public School No. 24	....	1
Lady of Angels School	1	.....

Number of days quarantine for diphtheria:
Longest..... 27 Shortest..... 8 Average..... 17 2/12
Number of days quarantine for scarlet fever:
Longest..... 43 Shortest..... 16 Average..... 31 7/9
Fumigations:
Houses..... 50 Rooms..... 154
Cases of diphtheria reported..... 9
Cases of diphtheria in which antitoxin was used..... 9
Deaths after use of antitoxin..... 0

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive	25
Negative	24
Failed	0
Total	49

TUBERCULOSIS.

Living cases on record March 1, 1911		349
Reported during March:		
By telephone	0	
By Bender	0	
By card	22	
	22	
Dead cases reported by certificate	6	
		28
		377
Dead cases previously reported	19	
Dead cases not previously reported	6	
Duplicates	0	
Recovered	0	
Removed	5	
Unaccounted for	1	
		31
Living cases on record April 1, 1911		346
Total tuberculosis death certificates filed during March		25
Out of town cases dying in Albany	0	
Out of town cases dying in Albany Hospital	1	
Out of town cases dying in County Hospital	1	
		2
Net city tuberculosis deaths		23

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	3
Initial negative	55
Release positive	12
Release negative	35
Failed	27
Total	132
Test of sputum for tuberculosis:	
Initial positive	25
Initial negative	28
Total	53

Bureau of Markets and Milk.

Market reinspections	114
Public market inspections	31
Rendering plant inspections	9
Fish market inspections	1
Pork packing houses inspected	2
Slaughter houses inspected	4
Hide houses inspected	3

Four hundred pounds of meat destroyed.

Miscellaneous.

Mercantile certificates issued to children	22
Factory certificates issued to children	11
Children's birth records on file	33
Number of written complaints of nuisances	38
Privy vaults	3
Closets	8
Plumbing	5
Other miscellaneous complaints	22
Cases assigned to health physicians	107
Calls made	287
Number of dead animals removed	410

Society Proceedings

Association of the Alumni of the Albany Medical College

A regular meeting of the Executive Committee of the Alumni Association of the Albany Medical College was held in the Chemistry Room of the Medical College on February 23rd at 8.15 P. M. President Lown was in the chair, and the following members were present: Lown, Bedell, Lanahan, J. N. Vander Veer, Babcock, Corning, Keough, Mitchell, Root, Gutmann. Dr. Nellis telephoned that he was unavoidably detained. In Dr. Mosher's absence, the chair apointed Dr. Corning to act as secretary pro tem.

The minutes of the last meeting were read and approved. The treasurer's report was read by Dr. Babcock, and the chair appointed Dr. J. N. Vander Veer a committee of one to audit the accounts.

Cash on hand June 10, 1910		$120 69
Dues		15 00
		$135 69
Printing:		
Brandow	$49 00	
Williams	13 65	
		62 65
Balance		$73 04

Audited and found correct, Feb. 23, 1911.

J. N. Vander Veer.

Dr. VANDER VEER read some replies that had been received in response to a letter send out by President Lown, asking for opinions as to the advisability of sending out circular letters to the individual alumni. Replies were read from the following men: Drs. Ingraham, W. G. Tucker, Brewer (Utica), Sadlier (Poughkeepsie), J. M. Mosher. All agreed that the plan was a good one.

Dr. ROOT: This is the time to send out a circular letter. We are fairly entered on the period of transition, and the new college buildings are no longer a vague theory, but an imminent fact. Most of the graduates do not know the exact state of affairs. If they could know of what had already been accomplished, and that by attending the meeting this year they would learn in detail of the plans for the future, great good might be accomplished.

Dr. CORNING: As far as I know, the Alumni Association has never been officially represented on the Board of Trustees of the Medical College. Here are two groups of men, working with the same object in view. If we could have a representative on the board it would pave the way for greater unity of action. How this might be accomplished is a matter that requires deliberation. We cannot well demand it, but a meeting might be arranged with representatives of the Board of Trustees, and the matter discussed. If, in the proposed circular letter, it could be announced that this official representation had been granted, it would tend to make the Alumni feel that their co-operation was becoming increasingly more necessary to the welfare of the college.

Dr. J. N. VANDER VEER: I am at present at work on the address list of the Alumni Association. There are over 2,700 graduates of the Medical School, and of these only 1,500 are members of the Alumni Association. Of these 1,500 we have the correct address of only 800. The list has not been systematically revised since 1890.

Motion: That it be the sense of this meeting that a circular letter be sent out to the individual alumni, stating the facts of the situation. Motion seconded by Dr. Gutmann. Passed.

Dr. VANDER VEER: Motion: That the chair appoint a committee of three to take in hand the matter of the circular letter, and to confer with the Faculty and Board of Trustees concerning representation on the board. Motion seconded and passed.

The chair appointed Drs. J. N. Vander Veer, Root and Corning. Dr. Root begged to have his name withdrawn on the ground that he was a member of the Faculty. The chair appointed Dr. Bedell to serve in his place.

Dr. VANDER VEER: I would like to know whether the constitution of the Alumni Association has been revised since 1874.

Dr. GUTMANN suggested that notice of a proposed revision would have to be given under the terms of the constitution.

Dr. VANDER VEER: Motion: That the executive committee recommend revision of the constitution. Seconded by Dr. Bedell. Passed.

Dr. GUTMANN: It would be wise to appoint at an early date a committee to have in charge the arrangements for Alumni Day; to see about

the dinner and luncheon or other form of entertainment. Motion: That the chair appoint such a committee. Seconded and passed.

The chair appointed Dr. J. N. Vander Veer, Chairman, Dr. Mitchell of Cohoes, Dr. Nellis, Dr. Jos. A. Cox, Dr. Corning.

It was suggested by Dr. Vander Veer that the Historian consider the plan of starting a collection of old surgical instruments, etc. The president and others approved the suggestion but no definite action was taken.

The meeting then adjourned.

ERASTUS CORNING, *Secretary Pro Tem.*

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

MEMORIAL MEETING.

MARK S. LEAVY, M. D.

A special meeting of the Medical Society of the County of Albany, was held in the Library of the Albany Medical College, July 21, 1910, at 5 P. M.

The President, Dr. John Gutmann, presided, and the following members were present: Drs. Gutmann, McHarg, D. V. O'Leary, Jr., G. W. Papen, Jr., Rooney, Lanahan, O'Brien, T. L. Carroll, C. H. Moore, and Corning.

Dr. GUTMANN announced that the meeting had been called to take suitable action on Dr. Mark S. Leavy's death.

The chair recognized Dr. Lanahan who paid the following tribute to Doctor Leavy's memory:

"It is a sad duty which calls us together to-day to pay a last tribute to the memory of one of our associates. Even we, who from our calling, are daily listening for the phantom footfalls, sense the majesty of death when he has entered in the midst of us, and called away one of our fraternity.

"Doctor Leavy was born in Albany, and received his early education at the old Brothers Academy on Beaver street. Determining upon the study of medicine, he entered the Albany Medical College in 1888. He removed to the west and attended courses of lectures at the University of Wooster, graduating the same year. On his return to Albany he entered practice, and shortly after was appointed district physician, a position he held until his removal to the western part of the State. A conscientious performance of duty was recognized by the railroad company, which appointed him to care for the West Albany workmen.

"Of a retiring disposition he yet enjoyed congenial companionship, and for many years held membership in the Catholic Union, and the Knights of Columbus, where those who came in contact with him learned to admire his gentlemanly manner and kindliness of disposition.

"He also became a member of the Medical Society, and though not a regular attendant at the meetings, he always retained a lively interest in its proceedings.

"The great rewards, dignities and fame that sometimes come in medical life had no allurements for him, and the man that seeks to stand in the spotlight of popular applause found no lodgement in his soul.

"His world circumscribed his patients, and his friends. The duty to them both, marked the goal of his ambitions. The poor he held as special wards of the profession, and those who assisted him in district work will recall the spirit and charity, and commiseration which ennobled his visits.

"He was a deeply religious man; not one who wears his faith upon his sleeve, nor one to whom religion is a garment of convenience, but one who, in the sanctuary of his soul, cherished an abiding faith, to animate his every action.

"The ideals of the profession he strove to realize, and honor, and integrity and sympathy, and zeal were qualities peculiarly his own.

"Mark Leavy is dead; his patients will hear no more his kindly words of encouragement and cheer, his friends will miss his quiet companionship; his genial humor, and his staunch judgment.

"We shall always cherish the remembrance of one who was an honor to this society, the Medical Fraternity, an honorable man, a dutiful citizen, and a conscientious physician."

Dr. Rooney then moved that a committee be appointed by the chair to adopt suitable resolutions, meeting the sentiment of the society as a whole.

The President appointed as members of this committee, Drs. Rooney, Carroll, and Lanahan. The committee later submitted the following minute:

Whereas it has pleased God in his wisdom to take from this world after an arduous task in the service of humanity: his servant, Mark S. Leavy stricken in the midst of his labors and whereas we must in the exiguity of our intellect not question the decree and omniscient power, albeit through that decree we suffer the irremediable loss of a good man, a loyal friend, and a conscientious physician; therefore be it resolved that we the Medical Society of the County of Albany do humbly bow our heads in grief at the ordinance of God, in sorrow for our loss, and also be it resolved that the Secretary of the Society be instructed to spread these resolutions on the minutes of the Society, and that a copy thereof be transmitted to the family of our deceased colleague.

Signed, James F. Rooney,
T. L. Carroll,
Joseph A. Lanahan,

Dr. O'Leary moved that the resolutions be accepted which was done.

The chair instructed the Secretary to transmit a copy of the resolutions to the family of Doctor Leavy, and the meeting adjourned.

John H. Gutmann, *President.*

Erastus Corning, *Secretary.*

The regular semi-annual meeting of the Medical Society of the County of Albany was held in the Albany Medical College on the evening of Oct. 12, 1910, at 8.15 p. m. Dr. John H. Gutmann, President, called the meeting to order. The following members were present: Drs. Bedell, Classen, Case, Conway, Corning, Craig, Cook, Druce, Gutmann, Hacker,

Hinman, Happel, Lomax, Lanahan, C. H. Moore, Manley, Myers, Murray, Morrow, MacHarg, MacFarlane, G. W. Papen, Sr., Papen, Jr., Rooney, Shaw, Smeltzer, Traver, A. Vander Veer, Vibbard, J. N. Vander, Veer.

Dr. George W. Papen, Jr., Treasurer of the Society requested that all members of the Society pay their dues before the 31st of December. Dr. Gutmann then made the following announcements: That Professor Chiari would address the Society at the Albany Historical and Art Society rooms on Washington Ave., at 8.30, the following evening.

Through the kindness of Dr. A. J. Bedell a meeting was arranged on the second Wednesday of November, at which Dr. S. Lewis Ziegler the noted Philadelphia Ophthalmologist would address the Society, his subject being, "Constipation, Suboxidation, and Sub-katabolism as chemotactic factors in Ocular Disease."

Dr. Hacker has arranged for a meeting during the year, and for the April meeting has secured Dr. Charles O. Kepler, of Boston, who will read the following paper: "Complete Procidentia in the Virgin with the report of a case," also Dr. George M. Price and Dr. William L. Wallace of Syracuse, and has communicated with Dr. Daniel N. Eisendrath of Chicago who will come here in February. His topic will be, "Some personal experience in intestinal obstruction" illustrated with lantern slides.

He also announced that Miss Ada Bunnell, State Medical Librarian, has volunteered to arrange for the use of the Society members a list of reference articles treating on the subject under discussion at each meeting if they so desired. By this arrangement the members of the Society would receive their notice of the regular meeting and if they were interested in looking up their subject could go to the State Library and would find a very complete set of articles awaiting their inspection.

Also announcement was made of the following Committee on Legislation: Drs. H. L. K. Shaw, L. H. Neuman, and J. H. Mitchell, of Cohoes. Committee on Public Health: Drs. J. D. Craig, H. E. Lomax and J. L. Donnhauser. Committee on Milk: Drs. J. P. Boyd, C. K. Winne, Thomas Ordway and H. L. K. Shaw, Secretary.

Dr. Shaw then reported on behalf of the Committee on Pure Milk. He stated that the committee was first appointed by Dr. Ward in 1902 and was at that time the seventh committee of that kind to be appointed. At present there are seventy such committees. Mr. St. John the dairyman of Canajoharie having under his control the Gold Seal Dairy was the first of the dairymen to step into line and submit his milk to investigation. The analyses of milk have always been made at the Bender Laboratory through the courtesy of Drs. Blumer, Pearce and Ordway. At first the demand was not very great in this city and the over-supply was sold in Schenectady. Mr. St. John has announced that the arrangement at present in force will be terminated on Oct. 1st and Mr. Stevens of the Normanskill Dairy has offered to submit to inspection and the committee has decided to accept his offer. Dr. Shaw further remarked that the inspection of milk by the county medical societies had grown to such importance that a national association had been formed, com-

prising a committee on pure milk of the various counties throughout the country with Dr. Rosenau, of Harvard, as President. The annual dues for membership in this National Association have been placed at fifteen dollars a year. The present committee of the Society of the County of Albany has now served for eight years without costing the Society one cent. Dr. Shaw feels that we should pay this assessment and hold our membership in the association. It was moved by Dr. Rooney and seconded that the report of the committee be accepted and the Secretary of the Society be instructed to pay the annual assessment.

Dr. Craig said he would like to ask Dr. Shaw whether the amount of certified milk used by the general population has increased. Dr. Shaw said that when the use of certified milk was first made possible through the efforts of the committee they had difficulty in disposing of twenty quarts a day and that now in spite of the difficulties that they have with the middle men they had no difficulty in disposing of one hundred fifty quarts a day. Dr. Rooney's motion was then passed.

The secretary then read a communication from Mr. James I. Wyer, Jr., Director of the New York State Library: "Ten years ago the Albany Medical College gave to the New York State Library 7,346 volumes and 3,661 pamphlets. This collection was to be the nucleus for an adequate public reference library in this subject which should form a department of the State library. At that time the physicians of the State united in a request for a small annual appropriation for medical books which has been since that date $2,000 per year. This sum has been carefully expended, chiefly for medical periodicals, under the direction of an advisory council of Albany physicians. This council now consists of the following persons who have given freely of their time and advice, not only in choosing the books but in approving policies and publications and in perfecting plans for greatly improved quarters for the medical library in the new State educational building: Dr. Albert Vander Veer, Dr. Samuel B. Ward, Dr. Henry Hun, Dr. George E. Gorham, Dr. Arthur W. Elting and Dr. Thomas Ordway.

"The collection at this date numbers nearly 20,000 volumes; and that it is already a serviceable research library, seems to be abundantly evidenced by the wide use that is made of it not only in Albany but throughout the State by members of your Society.

"A comparison of the two bulletins sent you to-day under separate cover emphasizes its growth during the past five years.

"The library regularly receives 642 medical serials. The annual bill for these serials nearly exhausts the appropriation. If the work of securing and completing sets of important medical periodicals is to be continued, it is imperative that the appropriation be increased. I write to enlist the interest and active co-operation of your Society in an effort to fix the regular annual appropriation at $3,000 instead of $2,000. As to just how an expression from your society may best be made I am not in a position to suggest. You will know better than I. Your society meets within a few days. If as a result of that meeting some formal resolution or motion, either from the society as a whole or from its proper executive committee, can be placed in my hands, it will help

strengthen our case for a larger appropriation. In addition it would be pleasant to have the assurance that the officers of your society stand ready to address personal letters to influential members of the finance committees of the Legislature."

After the reading of Mr. Wyer's communication Dr. Rooney moved that the County Medical Society express its approval of the increased appropriation suggested by Mr. Wyer, that in addition the members of the society write personal letters to those members of the Legislature that had such matters in hand. Dr. Smeltzer then suggested that the legislative committee of the County Society appear before the finance committee of the Legislature when this committee was prepared to take in consideration the increased appropriation. Motions were passed.

Dr. James Vander Veer moved that the report of the Comitia Minora be accepted and that the Secretary be instructed to cast one ballot for Dr. Augur and Dr. Bing. The Secretary cast one ballot and Drs. Frank A. Augur and William A. Bing were formally elected to membership.

Dr. Christian G. Hacker then read the Vice-President's address entitled: "A discussion of some facts concerning the toxicity of Bismuth Salts with reference to the treatment of Chronic Suppurative Sinuses and Fistulous Tracts by Injection."

At the conclusion of Dr. Hacker's paper Dr. Rooney moved that the thanks of the society be extended to Dr. Hacker for his instructive and interesting paper.

Dr. Albert Vander Veer in seconding Dr. Rooney's motion said that Dr. Hacker's paper gave a most interesting summary and review of one of the greatest surgical advances of the present day. He reviewed briefly the older methods and emphasized the advantages of the modification of these methods as reported by Dr. Hacker. In Dr. Vander Veer's opinion, the injection of Bismuth Salts was of value in empyema, especially in the chronic cases, which cases were most often seen by the general practitioner. He felt that Dr. Hacker had presented the subject in a most interesting and impressing manner. The thanks of the society were then voted to Dr. Hacker.

In continuing the discussion Dr. Bedell spoke of his experience with the methods described in Dr. Hacker's paper said that in cases of mastoiditis following otitis media he could report good results in 60% of the cases. Dr. Traver spoke of the good results he obtained with the Bismuth Salts in cases of empyema and tuberculosis of the kidney. He said that in his opinion paraffin was a substance to be avoided in the treatment of such cases. Dr. Rooney said that antimony was the most common impurity found in the Bismuth Salts and that the cases of poisoning reported as following the injection of Bismuth Paste were often due to the presence of antimony. Such cases as a whole presented a symptom-complex which comprised a moderate degree of cyanosis, low blood pressure, cardiac failure and symptoms referable to the gastro intestinal tract, vomiting and diarrhea. Dr. Rooney has used a 50% Bismuth Paste in his cases and has not noted any untoward results. Dr. James Vander Veer reported briefly six cases of empyema injected with various modifications of the Bismuth Paste. In one case in which

he used a modification which called for a low percentage of Bismuth combined with 15% of paraffin he obtained poor results and at his second injection he used pure paraffin without Bismuth and obtained better results. In one case 115 minutes after the injection with the regular Beck formula the patient complained of a sensation of numbness in his right side and the next day he had paralysis of the right side which later cleared up. In this case the lesion was on the right side and the patient was lying on his right side at the time the injection was given.

Dr. GUTMANN said that he believed that the resection of ribs was a procedure that was too commonly practiced and that moreover too many men make their resection in the fifth space in the mid-axillary line, whereas better results were obtained if the resection was of the ninth or tenth rib in the sub-scapular space.

Dr. HACKER in closing the discussion said that he was gratified at the interest displayed by the members in the injection of Bismuth Salts and remarked that he had felt some hesitation in presenting the paper as it was difficult to find a subject that would be of interest to general practitioners and not merely to specialists and for this reason he felt that the discussion brought out by his paper was most gratifying. He reported briefly several cases of poisoning following the injection of Bismuth Paste and said that he did not consider it fair to ascribe the poisoning to Bismuth unless it was found after a careful chemical examination that no antimony was present. Dr. Hacker brought up the type of syringe that should be used for the injections and condemned those syringes which made it possible to inject with sufficient force to break down new tissue. He was glad to hear Dr. Bedell's reports of his cases, as they were cases of considerable duration, and it is in such cases that we should expect the best results from this method. He said that the small area to be injected probably was a factor of some importance in the good results reported by Dr. Bedell. Dr. Hacker said in conclusion that he had seen five cases of empyema resected after injection with the Bismuth Salts had failed to help and he felt that it was reasonable to suspect that in some of these cases the poor results may have been due to errors of technique.

The election of delegates then took place. Dr. A. Vander Veer nominated Dr. W. G. Macdonald, Dr. Classen nominated Dr. Cook, Dr. Rooney nominated Dr. Morrow. Dr. Macdonald and Dr. Morrow were elected.

Dr. JAMES VANDER VEER proposed that a committee be appointed to revise the constitution and by-laws of the society and after some discussion the President announced that he thought it would be more proper to invite the legislative committee to take this matter in charge.

There being no further business the meeting adjourned.

JOHN H. GUTMANN, *President.*

ERASTUS CORNING, *Secretary.*

A special meeting of the Medical Society of the County of Albany was held on the evening of October 13, 1910, at the rooms of the Albany Institute and Historical and Art Society. Professor Hans Chiari, Professor of Pathological Anatomy in the University of Strasburg, and Har-

vey Lecturer for 1910, addressed the society, his subject being "The Portals of Entry of the Infection of Tuberculosis in Human Beings from an Anatomical Standpoint." About seventy-five members availed themselves of this unusual opportunity, and listened with pleasure to Professor Chiari's masterly address on this vital topic. At the close of the meeting, a reception was tendered to Professor Chiari at the University Club. During their stay in Albany Professor Chiari and his daughter were the guests of Dr. George E. Gorham who gave a dinner in their honor before the meeting.

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nurses—Statistics for March, 1911.—Number of new cases, 176; classified as follows: Dispensary patients receiving home care, 8; district cases reported by health physicians, 2; charity cases reported by other physicians, 44; moderate income patients, 122; old cases still under treatment, 146; total number of cases under nursing care during month, 322. Classification of diseases for the new cases: Medical, 62; surgical, 6; obstetrical under professional care, mothers, 53, infants, 48; eye and ear, 1; infectious diseases in the medical list, 8; infectious diseases in the surgical list, 1; removed to hospitals, 9; deaths, 15.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; medical students in attendance, 3; guild nurses in attendance, 3; patients carried over from last month, 2; new patients, 3; visits by head obstetrician, 3; visits by attending obstetrician, 1; visits by students, 43; visits by nurses, 48; total number of visits for this department, 95.

Visits of Guild Nurses—(all departments)—Number of visits with nursing treatment, 1,534; for professional supervision of convalescents, 375; total number of visits, 1,909; cases reported to the Guild by five health physicians, and forty-nine other physicians, graduate nurses seven and pupil nurses twelve on duty.

Dispensary Report—Number of clinics held, 99; number of new patients, 141; number of old patients, 391. Classification of clinics held: Surgical, 15; nose and throat, 8; eye and ear, 16; lung, 16; dental, 1; skin and genito-urinary, 9; stomach, 2; medical, 12; children, 11; gynecological, 9.

Medical Society of the State of New York.—The one hundred and fifth annual meeting of the society was held in the City Hall, Albany, N. Y., April 18 and 19, 1911. The following program proved of unusual interest:

Tuesday morning at 10 o'clock—Dr. A. L. Benedict, "Report of Chylous Cyst of Mesentery and Statistics of Literature;" Dr. A. Sturmdorf, "Studies on a local Haematological Factor in the Causation of Uterine Haemorrhage;" Dr. LeRoy Broun, "Operation for Adherent Retrodisplaced Uteri by Shortening the Round Ligaments through the Inguinal

Canal after Abdominal Section through the Transverse Incision;" Dr. Edwin Beer, "Concerning the Treatment of Bladder Tumors with the High Frequency Current of Oudin;" Dr. James T. Pilcher, "Diagnosis and Surgical Indications of Duodenal Ulcer," discussion by Drs. C. G. Stockton, Arthur W. Elting, Allen A. Jones, Henry Elsner, Alexander Lambert; Dr. Willy Meyer, "The New Thoracic Department of the German Hospital of New York City."

Tuesday afternoon at 2 o'clock—Dr. Harry G. Watson, "Taking the Cure at Carlsbad;" Dr. John F. Whitbeck, "The Bladder and the Prostate;" Symposium on Salvarsan, arranged by Dr. James Winfield; Dr. S. J. Meltzer, "Remarks on the Therapeutics of Salvarsan;" Dr. S. Pollitzer, "The Indications for Salvarsan in Syphilis;" Dr. H. F. Swift, "Technique and Methods of Administration of Salvarsan;" Dr. John Fordyce, "An Analysis of the Clinical Serological Results Obtained in the Treatment of 175 Cases of Syphilis with Salvarsan;" Dr. Howard Fox, "The Action of Salvarsan on the Wasserman Reaction;" Dr. William S. Gottheil, "A Few Plain Truths about Salvarsan;" Dr. James Winfield, "The By-Effects of Salvarsan;" discussion opened by Dr. Henry L. Elsner; Dr. Edward D. Fisher, "The Relationship of Tabes to General Paresis—Are they the Same Disease Differing only in the Situation of the Lesion;" Dr. Nathan Jacobson, "Paralysis of the Upper Extremity Due to Nerve Injury;" Dr. Edward B. Angell, "The Nervous Woman."

Tuesday evening, 8 o'clock—Papers with lantern demonstration. Col. John VanR. Hoff, "Vaccination in the Army;" Dr. Walter B. James, "The Clinical Observations of Cardiac Arrythmias from the Modern Standpoint;" Dr. S. M. Shook, "Diagnosis of Some Tropical Infections;" Dr. Fred H. Albee, "Fractures of the Tarsal Bones with Radiograms;" Dr. Lewis G. Cole, "Radiographic Diagnosis of Lesions of the Gastro-Intestinal Tract with Lantern Slide demonstration, and Cinematrographic Demonstration of the Peristalsis in Normal and Pathological Cases;" Dr. Isaac Adler, "Some Orthodiascopic Observations with Reference to the Size of the Heart and its Relation to Certain General Systemic Affections."

Wednesday morning, 9 o'clock—Dr. F. C. Busch, "Hypernephromata, the Effect of their Extracts upon Blood Pressure;" Dr. Louis Faugeres Bishop, "Arterio-sclerosis;" Dr. James F. Rooney, "The Significance and Therapy of High Blood Pressure;" Dr. John M. Swan, "The Hydrotherapeutic Treatment of Chronic Disease of the Heart;" Dr. M. M. Lucid, "The Operative Treatment for Fractures;" Dr. Clarence B. Hyde, "Olive Oil in Post-Operative Nausea;" Dr. Edgar R. McGuire, "Cerebral Compression;" Dr. William F. Campbell, "Developmental Defects of the Abdominal Viscera with their Surgical Significance;" Dr. Martin Tinker "One Hundred and Seventeen Consecutive Operations for Exophthalmic Goiter without Fatality;" Dr. J. M. Van Cott, "Deductions from Clinical Experience in the Use of a Polyvalent Bacterial Vaccine."

Wednesday afternoon, 2 o'clock—Dr. William A. Howe, "Mutual Helpfulness in the Conservation of Public Health." Dr. Albert Warren

Ferris, "The Prevention of Insanity;" Dr. A. H. Garvin, "Auscultation of the Cough—Its Importance;" Dr. Henry Adsit, "Malignant Tumors of the Kidney;" Dr. Paul M. Pilcher, "The Diagnosis of Diseases of the Kidney;" Dr. H. C. Gordinier, "Exophthalmos, a Common Symptom of Bright's Disease;" Dr. Lucien Howe, "The Method for Preventing Gonorrhoeal Ophthalmia;" Dr. Parker Syms, "The Precancerous Stage;" Dr. Harvey R. Gaylord, "Cancer Immunity in its Present Status;" Dr. Samuel G. Gant, "The Etiology, Pathology, Symptoms, Diagnosis and Treatment of Intestinal Tuberculosis;" Dr. Edgar A. Vander Veer, "Gun Shot Wound of the Abdomen;" Dr. E. MacD. Stanton, "Chronic Appendicitis—A Critical Study of Post-Operative End Results;" Dr. A. L. Soresi, "A New Method of End to End Anastomosis; exhibition of pathological material by Dr. H. Oertel, of Russell Sage Foundation; pathological exhibit from Syracuse University, arranged by Professor Steensland.

Wednesday, April 19, 7.30 P. M.—The annual banquet at the Hotel Ten Eyck.

After the following officers were elected, Albany was chosen as the place of meeting next year. President, Dr. Wendell C. Phillips, of New York; first vice-president, Peter W. Van Peyma, of Buffalo; second vice-president, William F. Campbell, of Brooklyn; third vice-president, C. H. Hervey, of Oswego; secretary, Wisner R. Townsend, of New York; treasurer, Alexander Lambert, of New York; chairman of the committee on scientific work, L. H. Neuman, of Albany; chairman of the committee on legislation, Assemblyman E. T. Bush, of Horseheads; chairman of the committee of arrangements, William J. Nellis, of Albany; chairman of the committee on public health, J. M. Van Cott, of Brooklyn; delegate to the convention of the American Medical Association in Los Angeles in June, Drs. Bristow and Flemming, of Brooklyn, Mulligan, of Rochester, Elsner, of Syracuse, E. A. Vander Veer, of Albany, and Cornwall, of Brooklyn.

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.—A meeting of the society was held at the Albany Historical and Art Society Building, Wednesday, April 12, at 8.15 P. M. Dr. William L. Wallace, of Syracuse, presented a paper on "Prostatic Troubles." Dr. Charles C. Kepler, of Boston, Mass., presented one on "Complete Procidentia in the Virgin, with Report of a Case."

MEDICAL SOCIETY OF THE COUNTY OF SCHENECTADY.—A regular meeting of the society was held at the County Court House, Tuesday, April 11, 1911, at 8.30 P. M. The following papers were presented: "Operative Treatment of Fractures," by Dr. D. L. Kathon and "The Early Symptoms of Abdominal Disease," by Dr. J. B. Garlich.

COLLEGE SITE.—The Hinman bill giving the supervisors of the County of Albany, N. Y., the power to transfer the Albany penitentiary site to the medical college passed the Senate April 20th and is now before the Governor for his approval.

Medical Interne, Government Hospital for the Insane.—The United States Civil Service Commission announces an examination on June 7, 1911, to secure eligibles from which to make certification to fill a vacancy in the position of medical interne, Government Hospital for the Insane, Washington, D. C., at $600 per annum, with maintenance, and vacancies requiring similar qualifications as they may occur in that hospital, unless it shall be decided in the interest of the service to fill the vacancy by reinstatement, transfer, or promotion.

The positions are tenable for one year, and pay $50 a month and maintenance. At the end of six months, however, during which time a post-graduate course in mental and neurological diagnostic methods, etc., is given, an examination is held, and promotions to the next grade, assistant physician, at $75 a month and maintenance, are made. Beyond this there is regular advancement for men whose services are satisfactory. The Government Hospital for the Insane has over 2,900 patients and about 750 employees to care for. In addition to the general medical practice offered, the scientific opportunities are excellent and the clinical opportunities in neurology and psychiatry are unsurpassed.

As considerable difficulty has been experienced in filling vacancies in the position of medical interne in the hospital service during the past several years owing to the limited number of eligibles available, qualified persons are urged to enter this examination.

The examination will consist of the subjects mentioned below, weighted as indicated:

Subjects.	Weights.
1. Letter writing (the subject matter on a topic relative to the practice of medicine)	5
2. Anatomy and physiology (general questions on anatomy and physiology, and histologic or minute anatomy)	10
3. Chemistry, materia medica, and therapeutics (elementary questions in inorganic and organic chemistry; the physiologic action and therapeutic uses and doses of drugs)	15
4. Surgery and surgical pathology (general surgery, surgical diagnosis, the pathology of surgical diseases)	20
5. General pathology and practice (the symptomatology, etiology, diagnosis, pathology, and treatment of diseases)	25
6. Bacteriology and hygiene (bacteriologic methods, especially those relating to diagnosis; the application of hygienic methods to prophylaxis and treatment)	10
7. Obstetrics and gynecology (the general practice of obstetrics, diseases of women, their pathology, diagnosis, symptoms, and treatment, medical and surgical)	15
Total	100

Applications will be accepted only from persons who indicate in answer to question 18 of the application form that they have been graduated from reputable medical colleges.

Applicants must not have been graduated more than two years prior to the date of the examination unless they have been continuously engaged

in hospital, laboratory, or research work along the lines of neurology or psychiatry since graduation, which fact must be specifically shown in the application.

Both men and women will be admitted to this examination, although there are no vacancies for women at present. Applicants must be unmarried.

Age limit, 20 years or over on the date of the examination.

This examination is open to all citizens of the United States who comply with the requirements.

This announcement contains all information which is communicated to applicants regarding the scope of the examination, the vacancy or vacancies to be filled, and the qualifications required.

Applicants should at once apply either to the United States Civil Service Commission, Washington, D. C., or to the secretary of the board of examiners for application and examination Form 1312. No application will be accepted unless properly executed and filed with the Commission at Washington. In applying for this examination the exact title as given at the head of this announcement should be used in the application.

As examination papers are shipped direct from the Commission to the places of examination. it is necessary that applications be received in ample time to arrange for the examination desired at the place indicated by the applicant. The Commission will therefore arrange to examine any applicant whose application is received in time to permit the shipment of the necessary papers.

Bureau of Public Health and Marine-Hospital Service.—A board of commissioned medical officers will be convened to meet at the Bureau of Public Health and Marine-Hospital Service, 3 B street, SE., Washington, D. C., Monday, May 22, 1911, at 10 o'clock A. M., for the purpose of examining candidates for admission to the grade of assistant surgeon in the Public Health and Marine-Hospital Service.

Candidates must be between 22 and 30 years of age. graduates of a reputable medical college, and must furnish testimonials from responsible persons as to their professional and moral character.

The following is the usual order of the examinations: 1, physical; 2, oral; 3, written; 4, clinical.

In addition to the physical examination, candidates are required to certify that they believe themselves free from any ailment which would disqualify them for service in any climate.

The examinations are chiefly in writing, and begin with a short autobiography of the candidate. The remainder of the written exercise consists in examination in the various branches of medicine, surgery, and hygiene.

The oral examination includes subjects of preliminary education, history, literature, and natural sciences.

The clinical examination is conducted at a hospital, and when practicable, candidates are required to perform surgical operations on a cadaver.

Successful candidates will be numbered according to their attainments on examination, and will be commissioned in the same order as vacancies occur.

Upon appointment the young officers are, as a rule, first assigned to duty at one of the large hospitals, as at Boston, New York, New Orleans, Chicago, or San Francisco.

After four years' service, assistant surgeons are entitled to examination for promotion to the grade of passed assistant surgeon.

Promotion to the grade of surgeon is made according to seniority and after due examination as vacancies occur in that grade.

Assistant surgeons receive $1,600, past assistant surgeons $2,000, and surgeons $2,500 a year. Officers are entitled to furnished quarters for themselves and their families, or, at stations where quarters can not be provided, they receive commutation at the rate of thirty, forty, and fifty dollars a month according to grade.

All grades above that of assistant surgeon receive longevity pay, ten per cent in addition to the regular salary for every five years' service up to forty per cent after twenty years' service.

The tenure of office is permanent. Officers traveling under orders are allowed actual expenses.

For further information, or for invitation to appear before the board of examiners, address "Surgeon-General, Public Health and Marine-Hospital Service, Washington, D. C."

National Confederation of State Medical Examining and Licensing Boards.—At the twenty-first annual convention of the National Confederation of State Medical Examining and Licensing Boards held in Chicago, February 28, 1911, President Dr. Joseph C. Guernsey delivered the annual address on "Medical Licensure," followed by a symposium on "State Control of Medical Colleges," which was discussed from the viewpoint of State, law, the medical colleges, State medical examining and licensing boards and the medical profession.

The American Medico-Psychological Association.—The sixty-seventh annual meeting of the American Medico-Psychological Association will be held at Denver, Col., June 19-22, 1911. A program of wide and varied interest has been arranged including an elaborate symposium on pellagra.

American Protologic Society.—The thirteenth annual meeting of the American Protologic Society will be held at Los Angeles, June 26 and 27, 1911. Papers of interest have been suggested and a more detailed program will be published later.

Seventh Annual Congress Against Tuberculosis.—The seventh annual congress against tuberculosis will be held at Rome September 24-30, 1911. The Congress is open to medical men of all nations and to all who are interested in the discussion of combined hygienic effort against tuberculosis. Membership carries with it the right to receive, immediately on payment of the entrance fee, the special ticket, which

enables the holder to travel at specially reduced fares on the Italian railways, both from inland frontier stations, such as Ventimiglia, Bardonecchia, Peri, Domodossola, and Pontebla, and from ports such as Genoa, Naples, Venice and Brindisi. The fare for tickets from these stations to Rome will in due time be communicated to members. The work of the congress will be distributed among three great sections, in order to give scope to the discussion of every possible mode of operation, whether in the individual battle against the disease in its diagnosis and its treatment, or in the combinations against it for the defence of the race against its terrors and its fatal consequences. The three sections are the following: (a) Etiology and Epidemiology of Tuberculosis; (b) Pathology and Therapeutics (Medical and Surgical) of Tuberculosis; (c) Social Defence against Tuberculosis.

McGill University.—The Medical Faculty of McGill University announce that an extended course of study will be given during the coming summer in post-graduate work, beginning on Monday, June 12th. The first half of the work will be conducted in the Montreal General and the second half in the Royal Victoria Hospital.

Institutions Benefited.—By the will of Samuel Meyers of Schenectady, N. Y., bequests of $5,000 each are given to the following institutions: Ellis Hospital, Physicians' Hospital, Old Ladies' Home, Children's Day Nursery, Children's Home, and Union College.

Samaritan Hospital, Troy, N. Y.—Miss Alida Van Schoonhoven, Mr. George B. Cluett, and Mr. Robert Cluett have offered a new site to the Samaritan Hospital and have agreed to furnish suitable buildings for the increased work of the institution. It is expected that between three and four hundred thousand dollars will be needed for the work.

Personals.—Dr. Theobald Smith (A. M. C. '83), of Boston, Mass., has been appointed Exchange Professor to Berlin for 1911-12.

—Dr. John H. Dingman (A. M. C. '01), is now in Vienna.

—Dr. Willis E. Merriman (A. M. C. '02), has recently been appointed second assistant physician at the Hudson River State Hospital, Poughkeepsie, N. Y.

—Dr. J. Howard Branan (A. M. C. '03), has moved his office from 133 Second street, Albany, N. Y., to 289 Clinton avenue, Albany, N. Y.

—Dr. William A. Bing (A. M. C. '09), Bacteriologist of the State Laboratory has been appointed Director of the Glens Falls Laboratory.

—Dr. Albert Vander Veer (A. M. C. '62), has returned after spending the winter in the south.

Deaths.—Dr. Edward R. Aiken (A. M. C. '68), died at his home in Aiken, Nebraska, March 18, 1911, aged 65.

—Dr. William Clark Cooper (A. M. C. '81), died at his home in Troy, N. Y., March 17, 1911, aged 51.

—Dr. Elbert Goodman Van Orsdell (A. M. C. '02), died at his home, Brooklyn, N. Y., March 25, 1911, aged 40.

—Dr. Russell J. Dimon (A. M. C. '83), of Hastings, N. Y., died at the Hospital of the Good Shepherd, Syracuse, March 28, 1911, aged 58.

In Memoriam

John Woodworth Gould, M. D.

John Woodworth Gould, M. D., a graduate of the Albany Medical College in the class of 1880, died at his home in Newark, N. J., January 16, 1911.

Dr. Gould was born October 11, 1839, in Albany. His parents were Charles D. Gould and Catherine Livingston Gould. He attended Professor Anthony's private school in Albany, the Andover Academy, and later Yale College. After graduation from the Albany Medical College, Dr. Gould resided in Albany until 1884, when he accepted a position in the D. L. & W. R. R. in New York City, where he remained until 1903, residing with his family in East Orange, N. J. He later removed to Newark, where he resided until the time of his death.

Thomas P. Scully, M. D.

Dr. Thomas P. Scully, a leading physician of Rome, this State, died April 19, 1911, in his home there after a week's illness of pneumonia. Dr. Scully was a victim of his profession, having answered a call when he knew he was running a risk. He was suffering from a severe cold when he was called about a week ago to the bedside of a woman patient. Upon his return to his home he informed his wife that the severity of his cold had increased and that he feared congestion. After preparing some medicine for himself he retired.

Dr. Scully about ten minutes before he died called to his wife, and with difficulty explained to her that he wanted his children to come to his bedside. She brought them to his bedside, and the doctor told them that he was about to leave them forever, and advised them to always obey their mother in everything, to remember their good name and be upright and honest.

Dr. Scully was a native of Greenbush, was educated in the Christian Brothers' Academy of this city, and afterward entered the Albany Medical College, graduating from there in 1885. His first professional practice was in Cohoes and he was for several years health officer of that city. He married Miss Elizabeth Gertrude Ness of Searsmont, Me., at Amesbury, Mass., in 1885, and started to practice in Hartford, Conn. He went to Rome twenty-one years ago and was at one time a member of the staff of the Rome Hospital. At the last State election he was the Independence League candidate for secretary of state. He was a member of the Oneida County Medical Society and of Roman Lodge No. 223, F. and A. M. He is survived by his wife and four children; one brother, Joseph Scully of Cohoes, and three sisters, one of whom, Mrs. Ella Dillmore, lives in this city.—*Albany Evening Journal*, April 21, 1911.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, the Specialties, and other Topics of Interest to Students and Practitioners, by leading members of the Medical Profession throughout the World. Edited by HENRY W. CATTELL, A. M., M. D. Philadelphia, U. S. A. Vol. II. Twentieth Series. 1910. J. B. Lippincott Company, Philadelphia and London.

The interest in this volume centres largely around the description of certain clinical lectures, demonstrations and operations, to wit: "the Report of Saturday Surgical Clinics for Students held at the German Hospital of Philadelphia, by John B. Deaver, M. D., and A Series of Clinical Lectures, etc., delivered at the University of Pennsylvania from March 28 to April 1, 1910. Edited by John G Clarke, M. D., chairman of the committee of arrangements for the second annual home-coming week. This latter course was of the nature of post-graduate instruction to keep the alumni abreast of the times and in touch with their alma mater.

A rather unusual but nevertheless exceedingly interesting article was one by Roland G. Curtin, M. D., of Philadelphia, entitled The Book-Plates of Physicians, with Remarks on the Physician's Leisure-Hour "Hobbies." The description is profusely illustrated with many unique and humorous cuts.

Dropsy and Its Treatment by Herman B. Allyn, M. D., of Philadelphia, exploits the use of Curschmann's tubes for the withdrawal of serum from the skin and subcutaneous tissues. H. D. C.

A Manual of Nursing. By MARGARET FRANCES DONAHOE, Formerly Superintendent of Nurses and Principal of Training School, Philadelphia General Hospital. Cloth. Price, $2 net. Pp. 489, with 52 illustrations. New York: D. Appleton & Co., 1910.

It is a great pleasure to be able to unreservedly commend this little book for nurses. So much is written for nurses and so many unessential and time-wasting lectures are given them which should be devoted to practical instruction that we are sure that this book will be welcomed by teachers and pupils alike. It is practical, concise and shows in every sentence that it was written by one who not only had done nursing but by one who had experienced the difficulties of teaching others. It is with considerable satisfaction that we note the absence of any chapter on anatomy and that while quite properly there is none on materia medica there is one on the administration of medicines. Both the author and the publishers are to be congratulated on this effort. S. L. D.

Salvarsan or 606 (Dioxy-Diamino-Arsenobenzol). Its Chemistry, Pharmacy and Therapeutics. By W. Harrison Martindale, Ph. D., Marburg, and W. Wynn Westcott, M. B., London, H. M. Coroner for North-East London. Cloth. Price, $1.50. Pp. 77, with illustrations. New York: Paul B. Hoeber, 69 East 59th St.

Some time in the future when Salvarsan has come to occupy its proper place in medicine, when careful, capable and competent men have set down the results of their observations of a large number of cases in which it has been used and in which there has been some permanent result, then such results may be worthy of publication in book form and of a place in our library, but certainly such is not the case with the book now under consideration. The book purports to be "a complete *resumé* in English dealing with the matter comprehensively." How complete and comprehensive it may be can be estimated from the following sentence appearing on page seven of the text: "Dogs were first injected, subsequently Alt's two assistants, Hoppe and Wittenben, injected themselves with 0.1 gm. each and thus the treatment was extended to trials on lunatics (70)."

While there is some valuable information in the book it is hardly one which can be recommended for general use. S. L. D.

A Text-Book of Bacteriology. By Philip Hanson Hiss and Hans Zinsser. 156 illustrations—some colored. New York and London: D. Appleton & Co. 1910.

This book of Hiss and Zinsser fills an important need, not so much for instruction in the elementary principles of bacteriology for medical students in the early part of their course, as for students in the later years or more particularly for practitioners who wish a clear explanation of some of the more recent developments in bacteriology. Among these special studies in immunity with particular reference to the details of technique of vaccines, leucocytic extracts, precipitins, agglutins, etc., are described.

Indeed, the minute attention to details of technique is one of the factors which should make this book of especial value to practitioners who wish to familiarize themselves with some of these newer laboratory procedures.

The subject is arranged in five sections. The first deals with the development and scope, general morphology, reproduction, chemical and physical characters, the biology, methods of staining and cultivation of bacteria.

The second section deals with infection and immunity with special emphasis on the technique of some of the more recent diagnostic and therapeutic procedures.

Section three contains the usual description of the different pathogenic bacteria, laying special emphasis on the so-called colon-typhoid-dysentery group, in fact three chapters are devoted to this. Some of the more recently described forms, such as the Bordet-Gengon bacillus of whooping-cough are mentioned.

In succeeding chapters under the head of diseases of unknown etiology —rabies, smallpox, acute anterior poliomyelitis, yellow fever, foot and mouth disease and the acute exanthemata are considered.

The last section deals with bacteria of air, soil, water, and milk. Numerous footnotes refer to the literature, particularly the articles in recent journals, and are very helpful.

The line drawings, charts and plates are well reproduced; many are very descriptive. Most of the half-tones, however, are of little aid. This is particularly true of the photomicrographs. T. O.

The Essentials of Histology, Descriptive and Practical. For the use of Students. By EDWARD A. SCHAFER, F. R. S., Professor of Physiology in the University of Edinburgh. New (8th) edition, thoroughly revised. Octavo, 571 pages, with 645 illustrations. Cloth, $3.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910.

This book is a narrow octavo of 571 pages; the very thin paper on which it is printed makes the volume extremely compact, but as the print shows through, reading is in places somewhat difficult. The book is profusely illustrated by 641 text figures, most of these are very descriptive, many are reproduced in monochrome which adds very little; the line drawings and halftones, however, are excellent.

The book is divided into 50 lessons and directions for the microscopical examination of tissues is given. An appendix is entirely devoted to histological methods.

The cavities lined by serous membranes are regarded as belonging to the lymphatic system.

Cells in general, special cell structures including division, combinations of cells to form tissues and of tissues to form organs, are considered in a clear descriptive manner. Only occasionally, however, is reference made to the embryology.

The book should prove of distinct value to the student of descriptive histology. T. O.

Dust and its Dangers. By T. MITCHELL PRUDDEN. Second edition, illustrated. G. P. Putnam's Sons, New York and London, The Knickerbocker Press, 1910.

This is a companion volume to "The Story of the Bacteria." It is a small 16mo book of 113 pages. The comments made on the "Story of the Bacteria" apply also to this book.

It is as the writer states, "a plea for clean air." Many hygienic principles are simply answered including the more recent knowledge of the transmission of infectious diseases. It is of value to the laity to be told of these matters pertaining to hygiene directly and by authorities instead of by the distorted accounts often furnished by lay writers.

T. O.

The Story of the Bacteria and their Relations to Health and Disease. By T. Mitchell Prudden. Second edition—revised, enlarged, illustrated. C. P. Putman's Sons, New York and London. The Knickerbocker Press, 1910.

This volume consists of a small 16mo book of 232 pages, neatly bound in green cloth. The book is a popular exposition, for lay readers, of the rôle of bacteria in disease and the nature and sources of infection. The style is very variable, at times simple and direct, again affected and forced. This second edition should be of value in giving the laity an intelligible and authoritative account of the relation of bacteria to public and private health. T. O.

Confessions of a Neurasthenic. By W. T. Maus. F. A. Davis Co., 1908.

This is a book of octavo size of 114 pages and eighteen drawings. The author treats of the life history of a neurasthenic from infancy to adult life. He exaggerates and enlarges upon the whims and fancies of the spoiled child and develops these into full-fledged obsessions. Although the book is written in the style of an autobiography and somewhat resembles the "Real Diary of a Real Boy" by Shute, these tendencies are greatly overdrawn, so that much of the humor is lost, although containing many amusing paragraphs. T. O.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

Pedagogic Therapy in Youthful Nervous and Mental Patients (Pädagogische Therapie bei jugendlichen Nerven-und Geisteskranken).

Edward Hess. *Zentralblatt für Nervenheilkunde und Psychiatrie*, 1 *January*, 1909.

The term is used by the writer to indicate the need of complete control of the education of the adolescent defective, rather than attention to and attempts at correction of prominent manifestations of a disordered nervous system. The bringing-up of a child is essentially in the hands of the parents, as the training of the school is practically limited to intellectual development. If the domestic conditions are insufficient, and the child reveals mental symptoms, the physician is summoned, who is looked to as an expert in restoring normal relations. Alienists become consequently, in a way, medical pedagogues. A suggestive organization is that of the military schools, where military officers control the military training of the cadets and the scientific departments are managed by teachers. There are, of course, broad-minded pedagogues who regard the general mental capacity and faults of their pupils, but as a rule, the alienist is the best equipped in pedagogic therapy.

In asylums pedagogic therapy is a recognized practice; the habitation of the patient, the direction of certain duties, and employment, in con-

formity with the capacity and needs of the patient, constitute part of the discipline; and hydrotherapy, electricity, and massage may be mentioned as measures for physical and mental improvement.

All classes of mentally affected adolescents are proper subjects for pedagogic therapy. Idiots are the least susceptible, and treatment is almost exclusively in the line of training. Imbeciles may remain at home until the defect is revealed, and then, if placed under intelligent supervision, may learn something practical, and, perhaps, of sufficient value to render them capable under proper conditions. Adolescents between the ages of twenty and twenty-three, if not previously defective, manifest symptoms, usually, from the thirteenth year, and may be divided into three groups: (1) the nervous, neurasthenic and hysterical; (2) in the strictest sense, the psychotic; (3) the morally defective.

Patients of the first class, where symptoms are not excessive, may be managed under the direction of a physician at home. This depends largely upon the intelligence of the parents, and occasionally, when this is wanting, a rapid recovery follows change of environment. Insane asylums are not usually well adapted to the needs of these patients, and the best provision would be a medical pedagogium. It must be remembered that from these beginnings serious psychoses may develop.

In the second group are included patients with outbreaks of passion, delusions, states of stupor, hallucinations and inclination to suicide. They belong in the asylum. If the acute stage passes away, quiet follows and the beginning of convalescence or a remission, or the transformation into a chronic states with defect, results. Every effort should be made to prevent permanent disability, and for this the only encouragement is given in pedagogic methods.

In the third group are included the patients who lack the ethical sense, although intelligence appears to be well developed. On closer scrutiny, however, other symptoms are discoverable. If moral insanity be assumed, it leads to the unfortunate result that every mad man may be assumed to be insane. When the moral defect is discovered in youth, the patient could have a better chance if treated in a properly devised corrective institution than if committed to a place of punishment.

These considerations show that for children and youth with nervous and mental affections, treatment is best obtained in a special psychiatric-pedagogic institution, which may be designated a pedagogium. This would best fulfill its purpose if made a part of an institution for the insane. The character of an asylum must furthermore be assumed, inasmuch as patients must be detained whether voluntarily or not. The general director should be a physician, as physical conditions must be met, and instructors, either in physical training or in mental exercises, should be subordinate. The pedagogium should be a closed department as the tendency to wander away, and to escapades is particularly prominent in young patients. The object of the pedagogium should be the preparation of the patients to live among other people, and they should be taught useful and simple occupations, as gardening, farming, simple trades, and household duties.

The Viscosity of the Blood in Epilepsy.

R. Dods Brown. *The Journal of Mental Science, October,* 1910.

Investigations have been made during the last fifteen years upon the viscosity of the blood. The results of these studies vary somewhat, but it appears that the viscosity of the blood in healthy individuals is from four and a half to five times as great as that of water.

Some studies have been made of the viscosity in pathological conditions, and it has been found that the viscosity of pneumonia is lower after the crisis than before it. In chronic interstitial nephritis the viscosity is also low, and this is attributed to hydræmia. There is also a definite lowering of viscosity in anæmia, although the red blood corpuscles do not show a corresponding reduction in number. If there is a very high leucocytosis, the viscosity is raised.

Fano and Rissi have suggested that the removal of the thyroid gland is followed by a slight increase in viscosity, and this increases rapidly when the parathyroids are removed. From this they assume that this property of the blood is affected very largely by the internal secretion of these glands.

Dr. Brown's instrument for the determination of the viscosity consists of two parallel glass tubes of unequal length, which are fixed to an opalescent glass stage. These are open and separate at one end, and at the other are connected by a U-shaped piece which joins them at right angles to the stage upon which they lie. To this connecting piece is fixed a rubber tube, attached to the rubber ball by means of a glass joint with an opening, which can be closed by the fingers in order that suction may be obtained by means of the bulb. The tubes are graduated. Pure distilled water is used for the observation, which is sucked up into one of the vertical tubes and then shut off from the action of the aspirating bulb. Blood taken from the ear of the patient is placed in the other tube and held there by suction, so that both blood and water stand at the same level. Both fluids are then allowed to come under the influence of the bulb, and the determination of the viscosity is made by the comparative levels.

Dr. Brown carried on a series of observations in fifteen cases of epilepsy, thirty-five cases of various forms of mental diseases, and on six members of the staff. The viscosity varies from four in cases of delusional insanity to 4.8 in cases of epileptic insanity, and in forty-six per cent. of the epileptics the viscosity ranged from 5 to 5.9. It appeared that the viscosity of the epileptics rose to a very high level prior to a fit in very many cases, and it was highest in those epileptics in whom the seizures were most severe and most frequent. There did not appear to be any connection between the number of corpuscles, or the hæmoglobin, and the viscosity, or between the viscosity and the blood pressure.

It appears that in epilepsy there is some presence in the blood affecting its viscosity, and Dr. Brown thinks that this is a toxin, bacterial or metabolic, circulating in the blood. This toxin is present to a far greater

extent in epileptics than in other mental cases and is most abundant in those suffering from frequent and severe fits. It also increases to a very marked extent prior to the onset of the seizure.

Some Aspects of "Maniacal-Depressive Insanity."

M. J. Nolan. *Journal of Mental Science, January,* 1909.

Kræpelin used the term "Maniacal-Depressive Insanity" to cover the "greater number of cases usually called recoverable mania, simple mania, simple melancholia, periodical mania, periodical melancholia and circular insanity." He divided this class of cases into three groups, the "maniacal," the "depressed," and the "mixed." The "characteristic fundamental symptoms" of the maniacal type are: great psycho-motor restlessness, pronounced flight of ideas, disorientation, great impulsiveness, transitory expansive delusions, occasional hallucinations.

This "maniacal state" may vary from hypomania (mania mitis or mitissima, and folie raisonnante) to delirious mania. The characteristic syndrome of the depressed stage is composed of: simple retardation, retardation with hallucinations and delusions, stuporous conditions, self-accusations, hypochondriacal delusions, hallucinations (auditory, visual, and olfactory), insight with condition, conduct, psycho-motor retardation.

Dr. Nolan finds difficulty in differentiating these groups from other forms of mental disorders because the catalogue of symptoms is so inclusive. This does not apply, however, to the mixed group, in which association of maniacal and depressive phases is so intimate. From his observations he comes to the following conclusions:

(1) That the "mixed form" is the only form worthy of acceptance. It alone can be diagnosed from the single attack. Single attacks of mania or melancholia, which in the light of previous or subsequent history may prove to be links in the chain of so-called "maniacal-depressive insanity," cannot be so recognized in the absence of such history.

(2) That the incidence of the "mixed form" attacks is intimately associated with the stress of the age epochs, with toxic influences (alcoholic, etc.), and with sexual excesses.

(3) That the "characteristic syndrome" of the "mixed form" may be found—

(a) Incidental to marked congenital mental deficiency;
(b) Associated with epilepsy;
(c) In a certain class of general paralysis;
(d) After operations.

(4) That the "mixed form" is sometimes unconsciously adopted by malingerers who are generally of the neurotic type. Such a case has come under the writer's notice—an alcoholic police officer who was pseudo-maniacal, depressed and stuporose in turn, was obliged to confess his fraud.

ALBANY
MEDICAL ANNALS

Original Communications

THE DISCOVERY OF THE TUBERCLE BACILLUS.

From a lecture on the "Etiology of Tuberculosis" delivered before the third year class of the Albany Medical College, November 15, 1910.

Historical Sketch.

By ARTHUR T. LAIRD, M. D.

Introduction.

The fact that consumption is one of the commonest of all diseases makes familiarity with its essential features the duty of every physician. While epidemics of smallpox, cholera and other plagues have had many victims, their visitations have been rare, and in the aggregate a much greater number of deaths have been due to consumption, through all the ages. More than twenty years ago, Koch stated that one-seventh of all men die of tuberculosis, and that fraction represents approximately the proportion of deaths from consumption throughout the world to-day, although the death rate from this disease in civilized countries has been falling. In the registration area in the United States in 1908, one death in nine was credited to pulmonary tuberculosis alone, and one in three of all deaths in the third decade of life were from the same cause. Besides causing great economic loss, estimated by Dr. Wilcox[2] at $65,000,000 a year for New York State, there are preventable losses of other sorts not easy to estimate. The world is unquestionably poorer for the untimely death of such men as Schiller, Laurence Sterne, Keats, Chopin, Thoreau, Bichat, Laennec, John Paul Jones, Bastien LePage and Robert Louis Stevenson.

Belief in the communicability of consumption from one patient to another is not a recent development, but is as old as history itself. While Hippocrates, who has left us a full description of

[1] Reports of the census office. Mortality statistics, 1908.
[2] Sixth International Congress on Tuberculosis. Vol. III, sec. 5, p. 7.

the clinical symptoms of phthisis, is silent as regards contagion, his contemporary, Isocrates, expressed his acceptance of the doctrine twenty-five centuries ago.

Among many others holding this theory in the middle ages were Valsalva and his pupil Morgagni (1649-1748), neither of whom would conduct autopsies on consumptive subjects on account of their fear of contracting the disease.

In the eighteenth century it was customary, in Portugal, to destroy the clothes and bedding of individuals dying of phthisis. Official notification was required for a time of physicians in Naples and various other places. Laennec, himself a victim of consumption, was a strong believer in its contagiousness.

This belief, so frequently asserted, received little experimental proof until the carefully planned and executed researches of Villemin. On the fifth of December in 1865, he communicated the first results of his work to the Paris Academy of Medicine in the following words:[3] "Tuberculosis is caused by a specific agent, a virus. This disease producing agent, like its congeners, should be found in the morbid products formed as a result of its direct action on the normal elements of the tissue affected. When introduced into an organism susceptible of being affected by it, this agent should reproduce itself, and at the same time reproduce the disease of which it is the essential principle and the determining cause." Then follows the report of the experiments upon which these deductions were based.

This report includes the results of experiments on fourteen rabbits inoculated with tuberculous material. All of these animals developed typical lesions, while the controls kept under exactly the same conditions presented absolutely no evidence of the disease. I quote the author's description of the first experiment:

"On the sixth of March we took two young rabbits about three weeks old, still suckling, and living with their mother in a cage slightly elevated from the ground and suitably protected. One of these rabbits we inoculated subcutaneously behind the ear with two small bits of a tubercle and a little purulent material taken from a cavity in the lung and from the intestines of a consumptive thirty-three hours dead. On the 30th of March and the 4th of April, we repeated the inoculation with a bit of

[3] Villemin, Cause et Nature de la tuberculose (Bulletin de l'Academic de Médicine, 1865, 5 décembre).

tubercle. On the 30th of June both rabbits were killed. In the one that had been inoculated we found the following lesions: tubercles along the greater curvature of the stomach, in the intestines and in the kidneys. Both lungs were full of large tuberculous areas formed by the union of many granulations. The brother rabbit which had been under exactly the same conditions of life did not present a single tubercle."

Other experiments made by him showed that rabbits inoculated with morbid products of other diseases developed no signs of tuberculosis. Tubercles selected from other sources than the lungs caused the typical appearances.

From this first series of investigations he came to the definite conclusion that "consumption is a specific affection. Its cause is an inoculable agent and rabbits can be readily infected. Tuberculosis therefore belongs to the same class of virulent diseases as syphilis, scarlet fever and glanders." He then brought forward further evidence, in favor of these views, by varied and repeated experiments, in some of which he used the sputum of phthisical patients. These were published in Paris in 1868.[4]

In this report of one of the best pieces of scientific work ever executed, he reiterated his first conclusions: "A specific virus is the cause of tuberculosis, and only through this virus, and in no other way can tuberculosis arise. It does not arise spontaneously in the human body. Neither weakness, nor distress, warmth nor cold, heredity nor influence of occupation can originate the disease. Even previous illnesses stand in no direct causal relationship to it. For its development there must be present a germ brought from without, found in the air, and containing the specific poison of tuberculosis."

These assertions of Villemin, supported as they were by numerous careful and thoroughly controlled experiments, raised a great commotion throughout the scientific world. To understand the violence of the discussions which followed, we must remember that in their enthusiasm for chemistry and anatomy, many scientists had come to think that belief in a vital principle was unnecessary, and for nearly a century the profession had been enamored of the thories of spontaneous generation of life and disease. Bacteriology was not yet developed. Pasteur's studies of fermentation were still in progress.

[4] Villemin, J. A., Etudes sur la tuberculose, preures rationelles expérimentales de sa spécificité et deson inoculabilité, Paris, 1868.

When Villemin, who was a modest gentle-voiced man, a military surgeon, professor of medicine in the Vale de Grace hospital, brought forward these proofs that tuberculosis is specific, inoculable and contagious, he was treated as a "perturber of medical order." The general attitude of the profession was well represented by the much applauded speeches of Dr. Pidoux in his gold buttoned blue coat:[5] "Tuberculosis! he exclaimed, "but that is the common result of a quantity of divers external and internal causes, not the product of a specific agent ever the same! Where would these specificity doctrines lead to? Applied to chronic diseases, they condemn us to the reseach of specific remedies or vaccines and all progress is arrested. Specificity immobilizes medicine."

The attempts to confirm or disprove Villemin's experimental results met with indifferent success, and on account of the use of contaminated material it was for a time believed that tuberculosis could be produced by the injection of various non-tuberculous materials such as fragments of muscle, cork, paper and cotton thread.

Finally Cohnheim and Salomonsen settled the disputes by carrying on experiments in which the anterior chamber of the eye was chosen as the seat of inoculation. Here inflammation caused by other agents could not be mistaken for that produced by tuberculosis.

In the meantime important discoveries were being made regarding anthrax, which culminated in the discovery of its bacillus. In 1838 Delafond pointed out to his pupils in the Alfort Veterinary School that the blood of animals dying of splenic fever contained little rods. Davaine also recognized them in 1850, but it was not until eleven years later that the thought occurred to him, after reading Pasteur's paper on the butyric ferment that they might be the cause of the disease. In 1863 he announced his belief that this was the fact, giving the rods the name of bacteridia. According to Pasteur this was the first successful application of the germ theory to medicine. Various contradictory experiments were reported until 1876 when Dr. Koch, who was just beginning his practice in a small village in Germany, tried to find a culture medium for the bacteridium. A few drops of aqueous humor from the eye of oxen or rabbits was employed, and in this the rods could be seen to multiply under the micro-

[5] Vallery-Radot. The Life of Pasteur. Doubleday, Page & Co., N. Y., 1910, p. 227.

scope to ten or twenty times their original length. After a certain time he noted that they contained spores. The rods and spores of the bacillus anthracis as it now began to be called reproduced the disease when injected into guinea pigs, rabbits and mice. In spite of this demonstration Bert and others claimed that the disease was reproduced by some slight trace still remaining of a poisonous substance in the blood. Pasteur then tackled the problem, growing the bacilli in broth or beer-yeast water, a drop of liquid taken from the first flask was sown into a second flask, from which one drop was again placed in a third, and so on until the fortieth flask. If a drop from the last flask was introduced under the skin of a rabbit or guinea pig, splenic fever and death immediately ensued. Thus was won a great victory of science over infectious disease.

Only a few years later, in 1882, Koch announced the discovery of the tubercle bacillus, at a meeting of the physiological society in Berlin.[6] The complete report of his investigations,[7] published two years after, forms a classical monograph on the Aetiology of Tuberculosis which should be read by each of you. Although the infectious nature of tuberculosis had already been proven, the character of the specific agent, was still undetermined. Organisms of the size of anthrax bacilli appearing in large numbers in the blood could be readily detected by the microscopes already in use, but to prove the existence of minute bacteria, present in the tissues only in small numbers, better optical apparatus was necessary. This was available now, thanks to the invention of oil-immersion lenses and Abbe's illuminating apparatus. The experience gained in the study of anthrax and other infectious diseases was also most useful.

According to Koch, to make the best use of these advantages, the problem of the specific cause of tuberculosis should be approached as follows: "In the first place it must be decided whether formed elements (such as bacteria) not belonging to the cells of the body or arising from them are present in the diseased parts. If the existence of such elements can be proved, we must find out whether they offer signs of independent life and their relations to the surrounding tissues, their diffusion in

[6]R. Koch. Die Aetiologie der Tuberkulose, Berliner klinische Wochenschrift, 1882 no. 15, p. 221.

[7]R. Koch. Die Aetiologie der Tuberkulose. Mittheilungen aus dem kaiserlichen Gesundheitsamte. 1884. English Translations: The New Sydenham Society, London; Massachussetts Veterinary Medical Association, New York. Wm. R. Jenkins, Publisher 1890.

the body, their appearance at different stages of the disease must be traced. . . . For a complete system of proof not only the co-existence of the disease and the parasites should be demonstrated, but they must be shown to be the real cause of the morbid process. This can only be done by removing the parasites from the diseased body completely and freeing them from all products of the disease, to which a hurtful influence could be ascribed, and then by introducing the parasites into the healthy organism the disease with all its peculiar characteristics should be produced anew."

These rigorous conditions which you will recognize as " Koch's postulates " to be fulfilled before any germ can be considered as proven to be the specific cause of a disease were met in the following way:

Especial difficulties were to be anticipated in finding special pathogenic organisms in tuberculous tissue, as they had already been much sought for without success, and Koch's own attempts to find them in fresh grey tubercles and in lung sections had been without result. Finally an alkaline solution of methylene was used in which the specimens were left for twenty-four hours, after which they were counterstained with a watery solution of Vesuvian (Bismarck brown) until they appeared brown to the naked eye. Under the microscope there then appeared fine rod-shaped forms (tubercle bacilli) which remained a beautiful blue color, while the detritus and other material surrounding them were brown. These bacilli were found in the tubercles of nineteen cases of miliary tuberculosis, in the fresh caseous infiltrations and in the interior of cavities in twenty-nine cases of pulmonary tuberculosis and also in the sputum, in two cases of tuberculous abscess of the tongue, in four cases of tuberculosis of the pelvis, in five tuberculous testicles, in one case of tuberculosis of the bladder, in one of tuberculosis of the adrenal gland, in a case of tuberculosis of the uterus, and in tuberculous areas in the brain in two cases. The bacilli were also found in twenty-one scrofulous glands from twenty-one different patients, in thirteen tuberculous joints, in ten cases of bone tuberculosis and in seven cases of lupus. Examination of tissue from tuberculous animals also gave positive results, the bacilli being found in the lesions studied in fifteen cattle, four horses, several pigs, a sheep, a goat, in several chickens, eight monkeys and in certain guinea

pigs and rabbits that developed the disease from being kept in close contact with other tuberculous test animals.

The first postulate that formed elements were present in the diseased parts was thus proven. The next step was to demonstrate the passibility of their existence outside of the body, entirely free from all connection with any products of the disease.

At first an attempt was made to grow the bacilli on gelatine, but without success, since the cultures had to be kept at room temperature to avoid melting the medium. As it seemed probable that the attempts failed because a temperature of 20° c was not sufficiently high for the growth of the bacilli, coagulated blood serum was tried. When this was inoculated with crushed tubercles and kept in an incubator at 37′ for some days, peculiar colonies were at length discovered, which were found to consist only of tubercle bacilli. For the purpose of securing transfers to fresh tubes of media, a platinum wire made glowing hot and then cooled again immediately before use was employed. With this, small scales of the original growth were transferred to a second tube in the way with which you are all familiar. Forty-three pure cultures were thus secured by Koch. The first was from a case of human pulmonary phthisis and had been transferred thirty-four times to fresh sub-cultures. The second condition laid down was thus fulfilled. The bacilli were capable of independent existence outside the body.

Up to this point it had been proved that tubercle bacilli occur in tuberculous disease processes, but the supposition was still justified that some other material of importance, perhaps even the real infectious material might also be present there while the bacilli played a secondary part. This question could only be settled by inoculating the bacilli perfectly pure and separate from all parts of the body as they would be after having been cultivated through several successive generations. This Koch now proceeded to do. In these experiments he used two hundred and seventy-five guinea pigs, one hundred and five rabbits, forty-four field mice, twenty-eight white mice, eighteen rats, thirteen cats, beside dogs, pigeons and chickens. The inoculations were made sub-cutaneously, into the anterior chamber of the eye, intravenously, intraperitoneally and by inhalation. In these experiments made with pure cultures of the tubercle bacilli, the resulting tuberculosis could only be due to them and to them alone. In Koch's words: "The proof of the proposition that tuber-

culosis is an infectious disease caused by tubercle bacilli is herewith concluded."

This great achievement would not have been possible save for the knowledge of technique acquired during the study of anthrax and septicemia, and Koch's methods developed by him in the study of these diseases and of tuberculosis, such as the use of solid media for obtaining pure cultures have been indispensable in the development of bacteriology. By his discovery of the tubercle bacillus the present great movement for controlling tuberculosis through prevention was rendered possible, and already thousands of lives have been saved. More than that, the logical outcome of the anti-tuberculosis crusade will be improved standards of living and better hygienic surroundings. With these will come increased immunity to all infectious disease.

In view of these undoubted facts, can even the most ardent anti-vivisectionist regret the sacrifice of the two hundred and seventy-five guinea pigs, one hundred and five rabbits and other animals whose death resulted in such saving of human life.

Koch's career should be an inspiration to every medical student. As a country practitioner in Dangenhagen he began to study the great medical problems of the day, and soon after in an improvised laboratory began the researches for the benefit of mankind, which ceased only with his death on the 27th of May, 1910.

SOME CLINICAL EXPERIENCES WITH CASES SUBJECTED TO THE WASSERMAN-NOGUCHI TEST.

Read before the Medical Society of the County of Albany, January 26, 1911.

By JAMES N. VANDER VEER, M. D.

That I should bring before the members of this Society a paper on such a subject may seem strange to some, and yet I do so with the purpose of creating discussion in the matter and thereby calling the attention of our profession in general to the almost universal lack of use, perhaps in this vicinity, I may say, of this valuable and practical method of diagnostic aid in the more complicated and resistant surgical lesions of questionable character which ever confront us, at times most inopportune and when least expected.

In the cases, the histories of which I will present in curtailed form, I owe much to Dr. Bernstein of the Bender Laboratory, who has afforded me every chance for trial tests by means of this reaction, and who has time and again placed the Laboratory methods at my disposal when it meant no small inconvenience to him.

Before the regular institution in the Laboratory of the means whereby this test could be made, I found myself continually asking the question, if many of the lesions of surgical nature, apparently mixed in type, did not have the element of syphilis to be seriously considered, and I noted that those who saw the cases in consultation with me were also ofttimes puzzled, and more frequently than not, suggested that I allow the patient to proceed and await secondary symptoms before making an absolute diagnosis. This seemed to me unsatisfactory, and with the establishment of laboratory facilities for giving a more positive answer in such cases, I believed the way was cleared for a short cut in the duration of such troubles, and I looked forward to the time when the general practitioner could make the test in his own office within a few minutes and thus be freed from the odium of allowing the case to proceed until it was so palpably evident that the most ignorant layman would be suspicious. I also, as have others before me, hoped for the time when we might use this test as a guide in the method of treatment. However, the various drawbacks which are encountered in making the test and the impossibility at times of obtaining the consent of the patient for a second trial, have somewhat dampened my ardor.

Many sero-diagnostic tests for syphilis have been placed before the profession in the last three years, but of all, the Wasserman reaction has seemed to stand foremost, and more especially so since its modification by Noguchi. And while I speak not with the authority of a bacteriologist, it would seem that the Wasserman-Noguchi test is now the most widely recognized and the most universally used. To the latter scientist we owe much for the simplification whereby it has been made possible for more of us to use the test than formerly.

Since the discovery of the spirochete pallida by Schaudinn and Hoffman in May, 1905, and the efforts following this announcement to simplify the methods of obtaining and staining this Treponeme, whereby the general practitioner might utilize

this knowledge without recourse to, or consultations with a laboratory, great advances have been made in diagnosis and treatment, resulting in the culmination during the past year of Ehrlich's indefatigable works of combining synthetically a parasitotropic near-specific ("606") for this dread disease.

It would seem now that the scourge of the ancients, as well as the curse of the present day, is about to be abolished through the brilliant efforts of these physicians in behalf of humanity.

The recital of cases is at best tedious for one's listeners, and appreciating this, I shall as briefly as possible narrate the following, which comprises twenty-four patients in all, whom I will divide into five groups, as follows:

	Positive		Negative	
	1. F. M.		1. W. K.	Hg.
	2. J. C.		2. T. L.*	Hg.
	3. L. B.	(3)	3. W. H. L.	Hg.
	4. T. N.		4. T. S.	Hg.
Suspected	5. T. L.			
(1)	6. L. E. H.		1. G. S.	
	7. G. K.	(4)	3. T. S.	
	8. T. L. (2nd test after "606")		3. G. McC.	
	9. E. P.			
	10. L. R.			
Unsuspected	1. F. M. H.		1. Mrs. H.	
(2)	2. L. P.		2. Mrs. P.	
			3. G. W.	
			4. T. S.	
			5. W. C.	
			6. G. G.	

*Same man as No. 8 in Group 1.

Group 1. Ten cases in all were rather of typical type, presenting in six cases (Nos. 2, 3, 4, 5, 6, and 8) primary chancres, without question. Seven (Nos. 1, 3, 4, 6, 8, 9, 10) had already developed secondary symptoms. All of these, in the main, were sent for serum diagnosis, to convince the patients that the institution of anti-syphilitic treatment was desirable. Eight of the ten had phimoses.

Case No. 1. Had an intra-urethral chancre, complicated with an acute specific urethritis. His rash appeared three weeks after exposure (?),

and the test was taken in the following week. No further symptoms appeared in his case, as he was immediately placed under proper treatment.

Case No. 2. I saw when he had a primary lesion and had not as yet developed a secondary symptom. Exposure had been some six weeks previous to the appearance of the lesion, so far as he could locate, and the test was applied two months after exposure.

Case No. 3. Appeared four weeks after exposure, with an abating number of complications of specific urethritis, together with a primary sore, and his test was taken within two days after I saw him. Despite positive treatment, he proceeded to a secondary rash, and the treatment was continued most vigorously for six months, when he returned for a second test, which still showed a most positive reaction, rather perplexing when compared with Group 3, to be mentioned later. I have since lost track of him.

Case No. 4. Was a straight case which had gone on to secondaries within seven weeks after exposure.

Case No. 5. Presented simply a primary chancre, complicated with chancroids easily differentiated and appearing, as he thinks, within ten days after exposure; but I am prone to believe he developed his primary lesion at a previous exposure and his chancroids followed repeated exposures in the succeeding time.

Case No. 6. Presented three lesions eight weeks after exposure, complicated with a urethritis which was fast dying out, and any one of these lesions could have been readily diagnosticated by the old clinical methods. Under usual treatment he has progressed to secondaries, however.

Case No. 7. Had all the possible complications of a specific urethritis, together with a phagadenic chancroid which threatened destruction of the penis. The primary lesion in this case was on the foreskin and did not seem to have yielded to the invasion of Ducrey's bacillus as rapidly as the surrounding tissue. His seemed to be a most stubborn case to deal with, but since leaving the hospital he has dropped from sight and it is impossible to state concerning the ultimate result of treatment.

Case No. 8. Is an interesting case. When he came to the hospital, on Nov. 14th, with all the earmarks of secondary syphilis, his test was then negative (Group 3, No. 2), he being then under clinical treatment at the hands of his home physician. In January, 1911, he returned to the hospital for treatment by "606," and one week after the injection of this drug he showed a very marked positive reaction, and hence he is included in this group. (Note: March 1st, 1911—Patient has written me yesterday that his lesions have all disappeared and his skin is clear.)

Cases Nos. 9 and 10. Were patients who presented secondary symptoms, but the primary lesion could not be found and the patients did not remember having had primary conditions for months back.

In general, it may be said that all of these cases were subjected, perhaps unwarrantedly, to a test; but all willingly submitted to the wish that a test be made, when conditions were explained to them, and they agreed to learn the results, following which, the placing on treatment and reference back to their home physicians gave great relief. In four of these cases the organism was found in the primary lesion.

Group 2. Two cases.

Case No. 1. Was that of a man, age 35, who had suffered for some ten years with a cystitis. He was married at 30 and six months later had an attack of so-called "skin trouble," typified by a rash and sore throat, which lasted for six weeks. His physician prescribed for his sore throat and told him his skin trouble would disappear, and after four weeks' treatment no further attention was paid to the condition. He came under my care for an exacerbation of his cystitis, and one month after treatment I noted a sore on his lip, which he told me had appeared one or two days previous. He adopted simple means for its alleviation. After three weeks it had not disappeared, and his body was covered by a fine macular rash. Dr. Lanahan kindly saw him with me, and we decided that it was an unusual case of syphilis, probably, and I asked the laboratory to make a test. The reaction was strongly positive. Questioning the patient carefully, I could not ascertain that he had been exposed within a period of three months. I am now seeking to ascertain if this was not a case of infection five years ago with a recrudescence now, or if it could be a fresh infection, or a second one, perhaps, following a cure (?) of five years ago; and I am still in doubt as to its origin.

Case No. 2. Was doubted, as no rash presented following an exposure some nine weeks previously; but a persistent sore throat, together with a history of two small ulcerations, furnished the request for a test, and, to my surprise, it was strongly positive, but no points could be found where the lesions might have existed.

Group 3. From the standpoint of the bacteriologist and clinician, these were the most perplexing of cases; and I wish to impose upon your good nature to go somewhat into detail regarding them. There are four in all. Each had taken mercury for varying periods of time. Without exception the reactions were negative, though all presented a syndrome closely akin to syphilis.

Case No. 1. Showed spirochetæ in his primary sore. He was immediately placed upon mercury and ten days later gave a negative test. He was continued upon mercury, and his home physician said recently that he had showed no further symptoms. He has now ceased mercury for two months, and it is eight months since his original infection appeared.

To Illustrate Dr. Vander Veer's Article on "Some Clinical Experiences with Cases Subjected to the Wasserman-Noguchi Test."

Albany Medical Annals, June, 1911



Case No. 2. I operated on this patient in November, 1910. He is mentioned under Group 1. Shortly after the operation he showed a secondary rash, and seeking a test, at Dr. Bernstein's request I gave him mercury for one week. The test was then made and was negative. Following his recovery from the operation he returned home and continued the mercury. He began to partake of whiskey in large quantities, 1½ pints each night during his interrupted sleeping hours. He returned to the hospital during January, 1911, for treatment with "606." Needless to say, he was in anything but good condition after his six weeks' absence. I kept him quiet for a week, withdrawing whiskey and mercury. He then received a dose of "606" (0.6 G.), and one week after, a second test was made and was found strongly positive. He now has agreed to submit to weekly and monthly tests as desired and will be kept under observation for as long a time as possible.

Case No. 3. Was a young man who presented with what seemed to be initial lesions, mixed in character. He was given mercury immediately. A consultant, however, suggested its withdrawal after he had taken it for three months at maximum doses. It was discontinued for two months and no other symptoms appeared for a month. He then presented himself, showing both testicles equally swollen, without tenderness or history of pain. The consultant again saw him and this time made a diagnosis of bilateral syphilitic orchitis. I suggested a Wasserman test. It was made, and though he had taken no mercury for three months, it was negative. He was put on potassium iodide. Now, six months since their original enlargement, the testicles still show hardened areas. The epididymi are uninvolved. A second test one month ago, about five months after the original swelling and after six months' cessation from mercury and about nine months after the infection, gives a negative reaction. This test, however, was made in an adjoining city and with one of the commercial sets sold for this purpose.

Case No. 4. The last of this group, was seen by me for another physician during his vacation in September, 1910. I saw it five days after the appearance of the sore and two weeks after the claim of exposure. On the very day that the sore appeared his physician had found spirochetæ, had burned the ulceration with fuming nitric acid, and had put the patient on mercury. The test was taken on the seventh day following the appearance of the sore, and was negative. The sore healed kindly in ten days. Mercury was withdrawn by the physician after one month. No further symptoms have offered since then, so his physician reports. Needless to say, I watched that case with interest.

Group 4. Three cases, all told, came under this heading of suspicious cases which proved negative.

Case No. 1. Being a phagadenic chancroid, swift-going, that consumed the greater part of the glans penis, and which extended deep down on the dorsum of the penis and along each side for quite a distance. (See photograph.) This came on about one week after exposure and the

patient began to notice a discharge coming from his foreskin. He consulted a physician, who told him that he had gonorrhea, gave him an injection, which he used faithfully, and internal medication, for about two weeks. Then, as there seemed to be no cessation in the discharge, the doctor gave him a closer examination, found that he had a phimosis and beneath this there were several hardened areas which he considered to be chancroids. He then gave him a solution of hydrogen peroxide, apparently, as the patient stated that it "bubbled" when he used it, and continued the internal medication. After two weeks more there appeared a hard papule near the peno-scrotal junction, which broke down and became ulcerated, and from which there exuded a serum, in quantity only sufficient to cause a piece of gauge to adhere to the part. The doctor then became somewhat frightened and referred the case to me, suggesting that he thought an exposure of the glans was in order. When I saw the patient there was a large amount of ballanitis present, and it was impossible to retract the foreskin farther than to observe the meatus. The odor from the parts was so strong as to be noticeable at quite some distance. I suggested that the patient go to the hospital, and that afternoon, by means of the thermo-cautery, and under ether, I incised the dorsal surface of the foreskin and exposed a condition that can be clearly made out in the photograph. Fully one-half of the right hand side of the glans had been eaten away, the corpus spongiosum was visible, and as one of the house physicians remarked, "the organ looked like an umbrella that had been opened, with the corpus acting as the stick." By reason of the history and the appearance of the papule, I suggested that a test be made, which was done. It proved negative. This was four months ago and there have been no further developments as yet. It is interesting to note in this connection that the part of the glans which was eaten away so markedly has rehabilitated itself quite well and the patient is now considering the advisability of having the second step of the operation performed; namely, a circumcision. The photograph was taken some 72 hours after the operation and illustrates quite well the condition as described.

Cases 2 and 3. Were simple ulcerations of the penis, with accompanying symptoms that might be taken for that of lues in its early stage, and as both had been referred to me, I deemed it advisable after consulting with the patient, to gain all the evidence possible pro and con. These were both negative and no results have been forthcoming.

Group 5. Six cases, all of whom had surgical lesions of varying kinds and degrees at the time of taking the test, some of which might have been post-syphilitic. In cases 3, 4, 5 and 6 the test was asked for and was made to satisfy the patients. In each of these the patient had gathered from conversation with his or her family physician that the surgical condition might be post-syphilitic. And as to the guilty-conscience element which may thus have been aroused, I cannot say. One man did deny

having ever had any venereal condition, and when the test was reported negative, volunteered the information that he had suffered from a condition of his glans penis in his younger days (evidently herpes), and he was in fear and trembling lest a mistake had been made at that time of diagnosis.

As to the conclusions that one might draw from a series such as this:

1. The time is fast approaching, apparently, when it will be considered absolutely necessary to make either a direct examination for the spirochete pallida or a sero-diagnostic test such as the above, rather than reasoning to the condition or allowing the patient to go on to secondary symptoms.

2. Group 2 gave us two out of 24 patients, or approximately 8½%, where there was absolutely no sign of a syphilitic lesion proper(?), but where the taking of a sero-diagnostic test pointed out the line of treatment. Group 1 gave one patient, or approximately 4%, which might have gone on to his secondaries if the condition had been looked at in the old manner. Giving us, therefore, approximately 12½% of cases, or one-eighth, which could have gone on undiagnosed, to present at a later stage complicated conditions which might have escaped observation.

3. It has seemed that the Wasserman test has been positive in all but a very small percentage of cases where the spirochetæ were present.

4. That in some of the cases where it has been impossible to demonstrate spirochete pallida, the Wasserman test has shown a positive reaction, and in those cases of this type, which have been allowed to go on to the secondary stage, has proven the test to be accurate.

5. That the ingestion of mercury, even in the most minute quantity, as is seen in one of the cases, and only after taking it three days, and where the lesion was of very recent origin, the test was negative; while in two of the cases where the mercury had been persisted in for a length of time, the result was negative. From this it might be judged that the taking of mercury, even for a very short period before making the test, is likely to negate the test and give a false report.

6. That too often the general practitioner does not follow his cases of this character with as great an avidity in regard to the more accurate forms of diagnosis, even though a laboratory with excellent facilities is at hand for this purpose.

SURGICAL SEQUELS OF ACUTE ANTERIOR POLIO-MYELITIS.

Read at the Annual Meetings of the Fourth District Branch of the Medical Society of the State of New York, September 27, 1910.

By JOSEPH BENNETT GARLICK, M. D.,

Schenectady, N. Y.

The surgical sequels of acute anterior poleomyelitis are:

(a) Paralysis or paresis of muscle.

(b) Deformity of bone resulting from disturbance of muscle balance.

(c) Trophic disturbances, the result of retarded circulation.

The toxins, resulting from an inflammatory process acting in the region of the anterior horn cells affects at first a comparatively wide area. No particular group are invariably involved.

Subsequently by a slow absorptive process, the area of initial paralysis becomes more and more limited until many muscles previously paralyzed regain their innervation. From this it can be readily seen that until months have passed we cannot diagnosticate the precise extent of complete paralysis.

Whitman has classified the course of the disease into four stages:

(1) Initial stage with inflammation of the spinal chord and its attendant constitutional symptoms. Its length is from several hours to a week.

(2) Stationary stage. In which the inflammation subsides, with its attendant symptoms, but with a continuance of the paralysis.

(3) Stages of partial recovery. During this stage the secondary congestion and exudation are gradually absorbed. At this time deformities and contractures are noticed.

(4) Chronic stage. Occurrence of bone changes, resulting from retardation of growth and unequal muscle balance.

While the first two stages are in the province of the internist, the surgeon is concerned in them inasmuch that with thorough preliminary treatment his results are better and more easily obtained. With the occurrence of contractures and deformities the disease comes within the province of the orthopedist.

The muscles at this time present two pathologic conditions.

The first condition is represented by a group of muscles whose nutrition is more or less completely destroyed. The muscle fibres

in addition to being diminished in size and number are undergoing fatty, amyloid or coagulative degeneration. The fibres are subsequently converted into connective tissue. It often happens that only parts of muscles are involved in the degenerative process while the remaining parts are only involved in a simple atrophy, and usually this is of wider extent. The second group are simply atrophied. The muscles are diminished in size and the fibres are thin.

They react to the Faradic current, more or less actively depending upon their weakness while the completely degenerated group show increased sensibility to the galvanic current, the anode c.c. being greater than the cathode. Contractures are then due to the opposition of sound, healthy muscles against weak, thin, and flabby muscles. Inequality of muscle balance.

Active exercise of muscles at this time is the only form of treatment which offers any ideal result. Since the muscles have been in a state of absolute disuse for a long period of time the individual has lost the ability to co-ordinate his muscles, and unless they can be retaught, vicious habits of action are easily contracted which further impairs a good function.

This training of muscles is the sheet anchor in the treatment of this disease, since it awakes or educates into activity the cells left in partially destroyed groups and thus secures muscles which are able to perform function. It should be carried out daily over a period of months and should not be discontinued until such a time, it is evident that every muscle is brought to its highest point of physiologic hypertrophy suitable for the best performance of function.

To accomplish this I fully realize requires much more time than we can spare.

Dr. Berry in an article on muscle training shows the care and patience which must be used in managing these cases.

I quote him as follows: "One of the first essentials in work of this character is to get the confidence and co-operation of the patient. The patients, most of whom are children, may be sensitive. They may be humiliated by their awkward attempts to use the limbs and they do not trust their own powers, on the other hand they may be apathetic and not care to exert themselves. At the same time parents or friends of the patient may be apathethic and fail to instruct the patients as they should.

The long course of the disease has made them discouraged and they lose hope that the patients will be any better."

This sums up the difficulties which present themselves in carrying out this method. The co-operation of the parents and the child are necessary to accomplish anything.

A dispensary department under the charge of a properly trained nurse where patients two or three a week can be taken and receive instruction suitable for their case, accomplishes the best possible results.

Lovett and Lucas, in the *Journal American Medical Association*, November 14, 1908, after an analysis of 635 cases of this disease, state that infantile paralysis is a less formidable affection than is generally believed, partial paralysis is common, disused and stretched muscles appear to be paralyzed but possess a possibility of function. The development by muscle training is essential to good results and without this the percentage of failures will be large.

Coincident with these measures, when deformity begins to occur, it becomes necessary to fit a proper brace or splint which will bring the limb in the normal position.

A discussion of the many different kinds of apparatus on the market would, I believe, be out of place on this occasion. My experience with them has been that the great majority have been too heavy. They also require many and repeated adjustments to be made to fit the part.

A made-to-order splint sufficiently light, I have found best for all purposes. No one particular brace is suitable for all cases. A heavy splint on a very weak leg retards recovery.

With the application of a properly fitting brace our efforts at training the muscles should not cease. To do so is a serious mistake. The brace should always be considered only as a temporary means of producing a functional result.

This treatment should be continued until the weakened and stretched and atrophied muscles are brought to the state of hypertrophy where without any support the affected limb will have its maximum function.

When the above plan has been carried out, and in the vast majority of cases only, then are we justified in advising operation. The reason why so many tendon transplantations are unsuccessful is because the muscle used for transplantation is

scarcely strong enough to perform its own function, to say nothing of the added strain in transplanting another tendon to it.

The field of work is necessarily limited to the extremities, and aims mainly to correct such deformities as talipes equino varus and valgus, talipes calcaneous, talepes calcaneo valgus and paralysis of muscles of the anterior part of the thigh.

The operations usually done are tendon, lengthening and shortening, and anastomosis with arthro desis.

The preparation of the patient for operation is of vital importance. Infection not only makes the operation useless but endangers life.

The tissues are below par; they stand clumsy or careless manipulation, poorly and are not very resistant to infection. Excessive care in preparation should be taken in every case.

The method that I have used is as follows. The skin is lightly washed for ten minutes with a soft cloth with green soap and water and washed off with a 1-3000 bichloride solution, which in turn is washed with sterile water.

The leg is now wrapped up in sterile gauze over which is poured fifty per cent. alcohol, which is left on for fifteen minutes. The extremity is finally painted with iodine. The operative technique is more careful than for laparotomy.

The ligatures, if silk, should be boiled in a 1-1000 bichloride solution previously, or if chromic catgut it should be boiled up in its glass container with the instruments.

The limb should be made bloodless. The incisions should be free not only for thorough exposure but also to avoid unnecessary handling, and the pulling and tearing of retractors.

The stitches in closing should not be too tight. After the skin is closed the tourniquet should be removed and, if there are any places where the circulation does not return immediately the stitch should be removed and replaced more loosely. The dressings are applied, the limb bandaged with a good layer of cotton and put up in an overcorrected position in plaster of paris, and kept up in this position from six to ten weeks in order that a firm scar may be formed. If the limb is used before, and I am now referring to tendon anastamosis or shortening, the scar is very likely to give away and failure result.

A protective splint is applied after removing the plaster of paris to take away the strain and the muscle training should be continued. This is, I say again, of great importance, and

unless carried out with untiring effort the final result will not be very successful, but if so carried out will give results in many cases beyond all expectation.

The methods of transplantation of tendons are Nicholodini and Lange.

Nicholodini's method consists in suturing the tendon of the paralyzed muscle to that of healthy muscle, while Lange inserts the healthy tendon into the periosteum. Lange, by experimentation on cadavers has proved that the implanted tendons by his method are five to six times stronger than the older method of Nicholodini.

It is generally conceded by authorities that the latter method is preferable. Before contemplating an operation of this kind it is necessary to accurately diagnose which tendon is paralyzed. In addition it is also necessary to find out which neighboring muscle will give the most assistance. The electric current is of no great assistance here since weak currents produce insufficient stimulation and strong currents produce contractions in other muscles, some of which may be antagonistic. It is of more value to see the muscles in action and to determine by inspection which are strong and which are weak than to be guided by an electrical diagnosis.

There is a class of cases in which the muscle balance is so poor around the ankle joint that there is marked deformity, due, of course, to stretching of the ligaments with sublaxation of the joints.

When this class of case presents itself and a tendon operation will not keep the foot in the normal position the operation which destroys the various articulations of the bones known as arthrodesis is to be thought of.

The operation should not be done until the child has reached the age of fourteen; if done before this the epiphysis of the bone being injured by the operation the growth of the foot will be stopped and more deformity result.

I have mentioned its application in the ankle, believing that this is the only joint where it can be done with good results. Even here it requires great care and thoroughness and the foot has to be kept in plaster of Paris for several months before the joint is ankylosed sufficiently for practical purposes.

Its application to the knee and hip does not appeal at all to me.

A stiff knee is more of a deformity than the hyperextension of the leg. When this condition occurs it can be better treated with a proper brace and transplantation of the ham-string muscles. A careful selection of cases and proper judgment in doing this operation are necessary for success.

There is another class of cases where there is a paralysis of the muscles of the back with the production of marked curvature. This condition is indeed pitiable and unless treated continuously from the very beginning, before curvature is marked, is practically hopeless.

These patients should be kept in plaster of paris for years if any benefit is to be expected. Kocher's method of application of a jacket is the best I have seen. The child is held in a broad binder laying on the opposite side of the contracture and the weight of the body as he swings on this over corrects the deformity. The cast should be as light as possible and later cut through the center and finished up with leather and eyelets so as to be laced.

Massage, electricity, muscle beating, passive motion all should be continued daily. At night they should be swung from a binder in the same position they were when the plaster cast was applied.

Every effort possible, continued over several years, should be expended. If these sufferers can be made to have a useful life we are abundantly repaid.

In conclusion I will say that I believe that with these methods carried out patiently and persistently, better results than we usually see will be secured. If we can educate the parents of the afflicted a great step in carrying out and continuing the treatment will be accomplished.

Many of the cases I have seen, where there was a serious deformity, which might be greatly improved under proper treatment were unquestionably caused by discouragement of their parents. They cannot understand why their children are not cured quickly.

It is our duty as a profession to show these parents that it requires months and years of persistent, patient effort on their part and their attending physicians, to bring these paralyzed limbs back to good function.

RECENT ELECTRICAL REMEDIES FOR HIGH ARTERIAL TENSION, JOINT INFLAMMATIONS, ETC.

Read before the Eastern Hampden Society, January, 1911.

By H. W. VAN ALLEN, M. D.,
Springfield, Mass.

So many and various are the methods of applying electrical current and electrically produced light that, to the medical man not particularly interested in this line of work, the field seems one of confusion and vagueness. For what do we use the Galvanic and for what the Faradic current? Where does the dozen methods of applying static electricity best serve its purpose? A lack of this fundamental information is the cause of many failures which are frequently reported in the journals by men of little experience. A few years ago the medical man was content to use the few electric modalities presented to him by the electrician. These were applied indiscriminately with indifferent results. Later the medical man began to ask for certain variations and the result was an improved technique and success where former failure had been.

Some one says, "Success is simply doing something better than anyone else has been able to do it." One of the demands was for a current of such tension or voltage that it would penetrate the deeper tissues and not pass along the surface, as probably does the Galvanic, so long used. When the quantity or intensity was raised, the pain was too severe and the action at the point of entrance too marked. It seemed the demand was beyond realization, but in the electrical line, "things move along so rapidly nowadays that people who say 'It can't be done,' are interrupted by somebody doing it." In this case it was the rapidly oscillating current known as the High Frequency current. It is of this I wish to speak to-day. Let me recall to your attention some facts in physics. If I rap on some object, a noise is produced. If a succession of raps are made, it is a series of noises until 18 per second is reached, when they blend in one note,—so on up until 40,000 vibrations per second are reached, when the ear is no longer able to detect anything, or, auditory sensation ceases. In the case of the eye, vibration is first detected in red light with vibration of 500 trillion per second. As the vibrations pass on up to violet, the rate has increased

to 750 trillion vibrations and then the optic nerve is not sensitive beyond this, and we have the ultra-violet light which is more chemically active than the violet, but is perfect darkness to the human eye. I am endeavoring to illustrate by these facts that our range of sensation to various vibrations is quite limited. In the electric current, vibrations or alternations are more or less rapid, according to the apparatus used. But except for the High Frequency current spoken of the range of vibrations has been entirely within the limits of sensation. Formerly we have looked upon the ordinary commercial current as a rapidly alternating current. We have here a 60 cycle current, 60 cycles per second or 120 makes and breaks or alterations. This relative rapid vibration is extremely slow as far as human sensation is concerned, in fact, it is only just into the field of persistent muscular contractions, to say nothing of getting beyond it. Each make and break produces a contraction in muscle until at about 30 per second when clonic contraction begins with great pain and increases to 3,000 per second, where it remains about the same until 6,000 are reached, when it rapidly grows less until a point is reached, varying with the individual, but in the millions somewhere, when all sensation is passed and while the intensity of the current is the same, it does its work without sensation. This seems to prove that, as with the ear and eye, the cells of the muscles and nerves respond to only impulses between certain limitations as to rapidity. This is true, for in the H. F. current we are able to pass large quantities of current without sensation. I will show you later that current, many times greater than sufficient to run an ordinary electric light, can be passed through the body with no sensation. For such a current to traverse the body, there must be a decided metabolic change in the tissues so as to produce the light, heat and other phenomena occurring in the cells of the body through which the current passes.

Before we discuss this, however, let us inquire how so rapidly vibrating a current can be produced. The electrician will tell you at once, it is physically impossible to oscillate a current so rapidly with any of the ordinary alternating devices. How was it done? Let us use a physical illustration again. A long rope lying on the floor will pass a single vibration of the hand holding one end along its entire length to the other end, so a series of impulses from the hand will be passed and the impulses of the

hand will be multiplied many times. If a musical note is struck in proximity to some object capable of producing that note, the object begins to vibrate in sympathy. All the A notes on a piano board will vibrate unless deadened when one is sounded,—the higher ones more rapidly in multiple of the lower.

It was found electrically that if a small portion of a long spiral wire of many turns was electrified with a make and break current, the larger portion of the spiral would have sympathetic waves pass through it in an oscillatory way, multiplying the oscillations many times. As a result a High Frequency current is produced. This can again be passed through another spiral or selonoid and the frequency much increased. The difficulty was that the current became attenuated to such a degree that for therapeutic purposes the quantity was too small to be effective. Recently this has been overcome by new apparatus, until now we can get all the quantity at high tension and frequency, we wish. To illustrate how rapidly things are moving, Tousey's excellent new book just from the press, says, "From 100 to 500 milliamperes pass through the patient." Just think of it, 500 M. A.! Well, I will pass 1,200 M. A. through the body to-day, and with no pain or discomfort. I speak of this just to show how rapidly the instruments are being improved to meet the demands of the workers.

Now let us turn our inquiry to the methods of use in therapeutics. The applications of this current are so varied that in the time available only mention can be made and not details given or cases related.

1. *Auto-condensation.*—By this method the patient is connected with one end of the small solenoid while the other is connected to a large metal electrode covered with a non-conducting material. This latter is usually made as a couch on which the patient lies. In this way large quantities of current (1,500 milliamperes) pass through the entire body. The application is a painless one, only a slight sense of warmth in the wrists is felt. The general effect is pronounced however. In less than ten minutes the patient is perspiring freely, a sense of exhilaration is felt and the blood pressure drops ten or more points. This effect is not temporary as the pressure after several hours is still less. The amount of urea excreted in the next twenty-four hours is increased one-third, while the excreta from

the bowels is also increased. It is evident that these phenomena are produced by the action on the vasomotor centers. I do not wish to enter into a discussion as to the advisability of reducing blood pressure but if increased blood pressure is caused by irritating products retained in the circulation and if we here have a method of throwing off these products through natural channels it must be far superior to a method by drugs or partial starvation. The latter reduces the blood pressure at the expense of the vigor of the general system. Nephritis is preceded by months or years of increased blood pressure and it is fair to suppose whether the two conditions are from a common cause or the latter is the primary condition if the pressure is kept at a nearly normal point the resulting nephritis will not occur. Again if our patient is old and the ill effects of the high pressure is manifest by cerebral symptoms such as dizziness, headaches and loss of memory, now if the reduction of such a patient's blood pressure results in a relief of the symptoms, is it not fair to suppose we have not only given relief but reduced the possibility of apoplexy?

The same holds true in auto-intoxication, which is prevented by this eliminative application. Many recurrent sick headaches can be avoided as well as chronic joint affections relieved. An interesting inquiry at this point concerns the length of time elapsing before the pressure again rises. I have found that in three days it begins to rise decidedly and the treatment should be again administered. If this is kept up at these intervals a time comes—in about a month—when the treatment is required less frequently, say once in five days, until after several months a treatment once a week or even once in two weeks keeps the person within the health zone.

2. *Fulgeration.*—This is the application of a small high frequency spark from a metal electrode. While somewhat painful it readily destroys tissue, leaving a soft scar. In this way moles and small epithelioma can be destroyed. The voltage is so high that it will be effectual even under water, so fungus growths of the bladder can be cauterized without open operation.

3. The *Glass Electrode* is an older form of application, very useful in neuralgias, eczemas and indolent ulcers especially those of the leg. The soft spark coming from this application is not painful but gently stimulating; while the ozone always generated

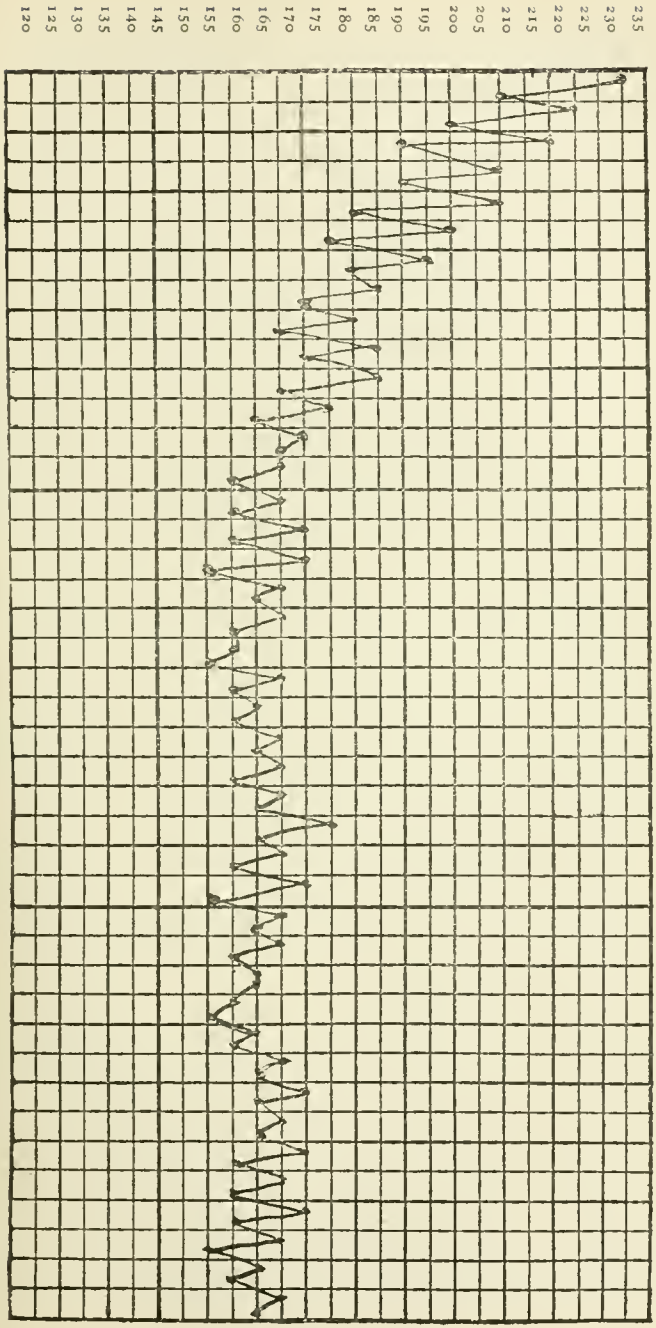
by the electric spark and in this way driven into the tissues is the best of antiseptics.

4. *Heat Penetration* as applied with a good high frequency instrument is alone in its effectiveness where heat is needed. All other forms of heat are greatest at the point of application, but this is greatest midway between the two points at which it is applied. For example take a knee. Any heat application, either wet or dry, is rapidly dissipated by the tissues and especially by the blood. It is doubtful if the center of the knee is affected at all. In heat penetration, an electrode is applied to each side of the part and the point midway between is that of greatest heat. I can readily show you an illustration of the truth of this fact. A glass tube filled with egg albumen is so arranged that the high frequency current can be passed through it from end to end. In a few moments the albumen in the center of the tube becomes solid and white while that in the ends is still transparent, showing positively that the heat has been greatest near the center and farthest from the point of application. Now apply this idea in medicine; in contusions, joint inflammations, pleurisy, non-malignant exudates and many other conditions that are benefited by internal heat.

To recapitulate: High frequency currents as auto-condensation reduces blood pressure by removing the exciting cause; prevents auto-intoxication; relieves diabetic conditions. As fulgeration removes moles and small questionable epithelioma. Can be used in the bladder. As heat penetration causes increase of heat at a distance from point of application and therefore relieves in joint conditions, contusions and non-malignant exudates.

In closing will leave with you a typical blood pressure chart of a patient treated with auto-condensation.

Mr. W., age 76 years, hotel proprietor and horse man, past history good as to sickness or manner of living. For four months past has been having dizzy attacks. One week ago became suddenly blind to objects at left of him (both eyes). Physical examination, including kidneys, negative except as to eyes and blood pressure of 230. Received auto-condensation treatment and nothing else with the results shown in the attached chart. After the pressure was reduced he resumed his normal activities and would spend whole days hunting and fishing with no companion.



RECORDS MADE BEFORE AND AFTER EACH TREATMENT

RIGHTHANDEDNESS AND LEFTHANDEDNESS.

Read before the Medical Society of the County of Dutchess, at Poughkeepsie, N. Y., April 12, 1911.

By ISAAC HARTSHORNE, M. D.,

Poughkeepsie, N. Y.

Various explanations have been offered in attempt to solve the "riddle," as Carlyle has called it, of right and lefthandedness. The most reasonable of these theories has long been taught by Dr. George M. Gould, formerly of Philadelphia, and published by him in a work entitled: "Righthandedness and Lefthandedness." This paper represents selections and abstracts from Dr. Gould's teaching and writings on this subject, and I trust, though sounding dry at the start, that you will endure to the end since the conclusion drawn is of great importance to some of your patients who are suffering from the consequences of a misguided custom.

Some of the previous theories advanced as to the origin of right and lefthandedness are that it is "a natural provision," that it is due to "the left-sided location of the heart," "a greater supply of nerve force to the muscles, because of an earlier and greater development of the brain on one side," "the development of one cerebral hemisphere more than the other," "obstruction to the flow of blood in the vena cava by the pulsation of the aorta," "a superior efficacy of the muscles of the right side," based upon the observation of the anatomic peculiarities of the liver, lungs, etc., and their supposed influence upon the center of gravity of the body, and "the origin of the subclavian arteries, the left before the right in the lefthanded with superiority of blood supply to certain structures."

Dr. Gould's theory is based upon the location and interrelation of the brain centers controlling sight, hand-motion and speech, the starting point depending upon the dominance of the right or left eye, that is upon whether the individual is righteyed or lefteyed.

In retracing the steps of evolution we find that the beginning and advance of the different stages in higher animal life, that the development of self-motility and finally of civilization were dependent upon ocular function. It then becomes evident that in the later periods the survival of the fit has been dependent

upon "the ocularly fit, and the exclusion of the unfit has been of the ocularly unfit." This is brought out again in embryology in that "the formation of the eye is well under way in the second and third week, but the differentiation of the motor muscular tissues is not clear until some four months later." Furthermore the eye is in reality an out-growth of the brain itself, and the retina is virtually cerebral substance specialized in function and place to unite in common vision and intellect.

Quoting from Dr. Gould, "That which is the nearest to man's soul, the most psychic, the most immaterial of the doings and creatings of his mind, is language. Its organ is single not double, its center of origin and control is monolateral in one side of the brain, and not as in the case of the hands, eyes, etc., bilateral, or located in the two sides of the brain. If it is to act with celerity and precision in war, game, art, hunger, or love, it must be as closely contiguous and in as immediate relations to other centers of co-ordinate and interdependent functions as possible. Thus, one act, muscular, emotional or volitional requiring a number of co-operating centers must, so far as possible, be near and closely connected with the organ issuing the final command. Locate the speech center in the left half-brain and the centers of the more dextral of the bodily functions also located there will act more immediately and accurately than if some of the necessary data were furnished by centers in the right half-brain. Vice versa, of course, in the case of the location of the speech and writing center in the right half-brain and the resultant lefthandedness. The four-footed vertebrate with his right eye governing dextral function and dextral dangers, furnished the biologic habit of righteyedness to general dextral function and of lefteyedness to general sinistral function, so that the prehuman organism brought to anthropology the unfinished mechanism which finally developed righthandedness (or lefthandedness) in our savage ancestors by means of war, barter and sign language. . . . Speech is almost the sole and surely the chief muscular function that is single, not double, and which must be executed from a single initiating center of power and control. It is the fusion of all bilateralism, of all bodily and mental components and diversities into the unitized resolve which the whole body, mind and future must obey. For the righthanded man this center of nervous origin and control is not in the right half-brain, nor in both half-brains,

but only in the left. There also are the nervous or ganglionic mechanisms of memory, of writing, of the expert vision, of hearing, of leg and foot motion, which may be or are necessarily bound up with the righthanded deeds, the laryngeal and vocal acts issuing in language, or resolve or social determination. The two halves of the brain are remarkably independent and separated from each other, as a thousand facts of physiology, disease and injury to brain substance show. Therefore an injury to the speech or writing centers or to the centers of motion of the righthand fingers of a righthanded person at once paralyzes or destroys partly or wholly, the power of speech, of writing, of memory, the significance of words, etc. A similar injury to or disease of the corresponding parts of the right-brain has no effect whatever upon these functions and acts. The child is born with no discoverable differences in cerebral structure or substance of the two cerebral hemispheres, and none ever appears thereafter. But about the sixth month of life the babe, which will naturally become a righthanded one, begins to put forth the right hand instead of the left to grasp an object, and the cerebral matter about the left third frontal convolution, however unchanged or like that on the right side, is henceforth increasingly and exclusively used to control the organs of speech, of writing and memory. . . . The differentiation and complication of the cerebral mechanism, whence spring all the acts, begins in infancy with simple homogeneity and grows in complexity with every year of added life. With each year of differentiation the expertness grows, and it grows because the single cerebral mechanism has become more and more complex. Therefore with each added year the impossibility of educating the corresponding centers in the right brain becomes greater."

The physiological reason, "Why an infant puts forth the right hand to grasp objects is because the right eye is the one which is nearest perfect visually, anatomically or optically. The law derived from the phylum of the entire past is that the right eye and right forefoot, or right hand, must work together. In all animals the right eye governs the placing and action of the right frontfoot, of the right side of the body, the guarding against dangers on the right side, etc. The left eye has the same office for the left side. Heredity has place in the creation of the more nearly perfect right eye. If the left eye of the infant is the better seeing eye, it will grasp at objects with the

left hand and become lefthanded. Handedness, if one may devise the word, becomes either righthandedness or lefthandedness, according to the dictating condition of the better eyedness, right or left."

"That in the righthanded all these centers of origination and control are in the left, and in the lefthanded in the right half-brain, is an inevitable consequence of the location of the speech center and writing center exclusively in one or the other. Writing and speaking are closely interdependent, both in origin (gesture, sign-language, counting, Roman numeral or digit-throwing), and in all subsequent history and evolution. Their centers of origin and control must therefore be in close neighborhood and intimate union. Vision which preceded and accompanies all must therefore be in the same side of the brain. This of course holds as to hearing, and, although less differentiated, to the associated leg and foot movements."

This brings us to the parting of the ways. Given an infant who uses the left hand by preference, shall he be let alone to continue a "southpaw" or shall he be trained into righthandedness? From prehistoric times the terms sinister and sinistral have stood for ill-omened circumstances and dexter and dextrous for expertness and cleverness. The great majority being righthanded makes a lefthanded person appear awkward, even though he may actually be more expert with his left hand than the critic is with his right. All tools and machinery and musical instruments are made for the righthanded. It is a great temptation to set nature aside and to endeavor to train our lefthanded little friends to be righthanded, and in doing so we thereby start a train of unending misery or fail altogether. If the development of the writing and speech centers is already well under way in the right half-brain and if we transfer the writing center to the left half, we break up the natural contiguity of location between the important centers of writing and speech since "there is a measurable slowness of nerve-current transmission (between one hundred (100) to two hundred (200) feet per second)" between the two brain halves, and even if the commissural fibres "were more intimate and more numerous and shorter than they are, rapidity and accuracy of correlation and unification in willed act would be impaired, and the safety and decision of the entire organism imperiled, if one or two of the coacting centers are in opposite hemispheres."

The only conclusion to be drawn is that we should let the lefthanded child alone. He will have a "sufficiently hard time to get lefthanded work benches, tools, etc., and to pursue the avocations of the righthanded without doubling his handicap by dividing the centers required in a composite act between the two dissociate brain-halves."

In the United States alone the originally or persisting lefthanded persons can be counted in the millions and a portion of these are mental and even physical failures, because of injudicious tampering with and in some cases ultimate separation of already functionating brain centers, which should by nature be closely correlated.

If we could get hold of the child before articulate speech is developed and then train preference for use of the right hand and at the same time correct the existent error of refraction, so as to expect the vision of the right eye to be a little better than that of the left, the child should develop naturally and normally into a righthanded individual. But to allow lefthanded development together with lefteyedness to progress until the child goes to school and then to force a righthanded training is physiologically criminal. And yet this is the required procedure in many public schools, and by many educators is considered simply in the light of overcoming a bad habit.

The righteyed and righthanded child who through accident, disease or uncorrected change in refractive error is made lefteyed is unwittingly handicapped by the separation of the visual center from those of writing and speech, but even he is not nearly so badly off as the one whose center of speech and writing have been artificially separated, as happens with a lefthanded child taught to be righthanded.

Dr. Gould writes again: "I have a patient who, as a boy, was cruelly compelled to stop writing with his left hand, and after years of torment he was made a dextral writer, and for forty years he has never been able to think and write at the same time. He cannot write the simplest letter that requires thought, planning, or judgment. He sends miles or waits hours for a stenographer, and can dictate the most technical engineering plans with clearness and rapidity."

My own Poughkeepsie practice presents some interesting figures, though the whole number examined is necessarily small.

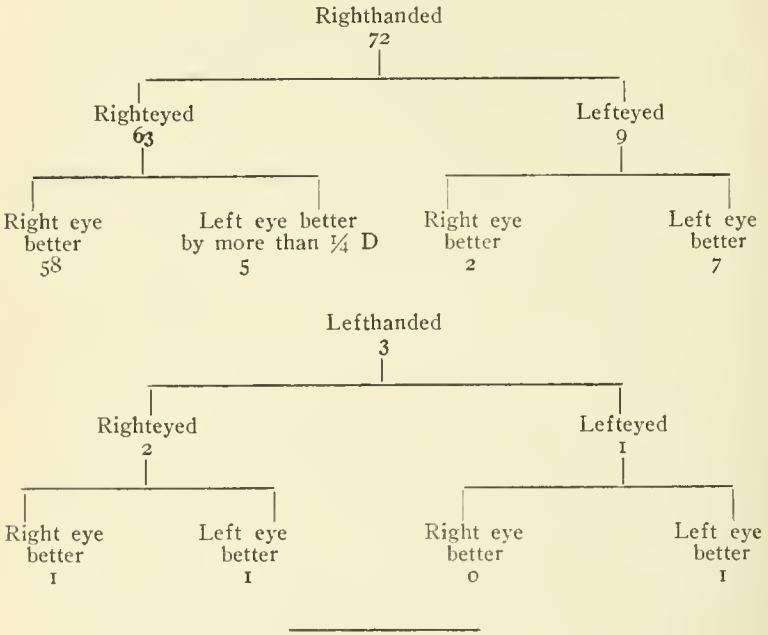
In this instance, considering only refraction cases and those in which the patient could see out of each eye, seventy-five persons were examined. Seventy-two of these are righthanded and three are lefthanded. Of the seventy-two righthanded, sixty-three are righteyed and nine lefteyed. Of the sixty-three who are righthanded and righteyed, in fifty-eight the right eye is practically the same or optically better than the left and in five the left is distinctly the better. Of the nine who were lefteyed, in seven the left eye is the better and in two the right. Of the three lefthanded, one is lefteyed and of the two who are righteyed, in one the right eye is optically the better and in the other the left eye is markedly the better. At least some of these who are righthanded and lefteyed and who are lefthanded and righteyed, I hope eventually to change over to righteyed and lefteyed respectively. Even this small group of cases brings out the tendency toward righthandedness and lefthandedness according to the condition of the better eyedness, right or left.

Also in some patients who are righthanded and lefteyed or vice versa, such symptoms have been noted as interchanging the order of and the omission of words in speech and in writing and mixing letters in writing,—for example if a word ends in double l and the next word begins with f, the first word is often ended with double f and the next word begun with l. I have also noted that some of these patients can talk more fluently than they can write, and one particular case, a bright intelligent girl, often gives the impression of inattention or even stupidity because of the slowness of thought transmission.

Ambidexterity is unnecessary and usually, strictly speaking, impossible since expertness only comes with long continued practise. The left hand must be just as efficient in its holding and secondary tasks as must be the right in the more particular part of the work involved. It would be better to endeavor to train more expert right or left hands than to fool away time trying to develop two expert hand centers to be used with one speech center. This does not rule out the training of the left hand to do certain expert things to relieve the right hand in cases of emergency as such training is very limited and is not ambidexterity.

As opportunity offers should we not discuss this question with the educators of the day and explain to them that this

evil is neither a riddle nor merely a bad habit to be forcefully reformed, but that it has a definite physiological basis and in consequence should receive physiological consideration?



It is not only for the sick man, it is for the sick man's friends that the Doctor comes. His presence is often as good for them as for the patient, and they long for him yet more eagerly. How we have all watched after him! What an emotion the thrill of his carriage-wheels in the street, and at length at the door, has made us feel! How we hang upon his words, and what a comfort we get from a smile or two, if he can vouchsafe that sunshine to lighten our darkness! Who hasn't seen the mother prying into his face, to know if there is hope for the sick infant that cannot speak, and that lies yonder, its little frame battling with fever? Ah, how she looks into his eyes! What thanks if there is light there; what grief and pain if he casts them down, and dares not say, "hope!" Or it is the house-father who is stricken. The terrified wife looks on, while the physician feels his patient's wrist, smothering her agonies, as the children have been called upon to stay their plays and their talk. Over the pa-

tient in the fever, the wife expectant, the children unconscious, the Doctor stands as if he were Fate, the dispenser of life and death; he *must* let the patient off this time; the woman prays so for his respite! One can fancy how awful the responsibility must be to a conscientious man; how cruel the feeling that he has given the wrong remedy, or that it might have been possible to do better; how harassing the sympathy with survivors, if the case is unfortunate—how immense the delight of victory!

Pendennis. W. M. THACKERAY.

Scientific Review

ANAPHYLAXIS

The derivation of anaphylaxis is ἀνα meaning against and φύλαξ guard or φύλαξις meaning hypersusceptibility or super sensitiveness, which is a condition of unusual or exaggerated susceptibility of the organism to foreign bodies (Rosenau and Anderson). Richet of Paris first introduced the word in 1904; the latter used it to designate an increased susceptibility to a poisonous substance which was derived from Actinians and mussels, in dogs that had survived a small dose of the substance. Anaphylaxis and immunity are allied conditions and there are times when the one is dependent upon the other. Von Pirquet tells us that the term immunity should be limited "to indicate the condition of complete resistance in which no clinical reaction occurs when poisons such as diphtheria, tetanus and the like are introduced into the organism." Investigators tell us that anaphylaxis (the state of) may be congenital and acquired; and that any strange proteid which has been introduced into the body may cause the condition; gelatin being the one exception; apparently the last named proteid has no effect on producing a hypersusceptibility.

The sudden deaths which have followed the injection of antitoxin, in man and other animals has lent impetus to the thorough study of the condition of hypersusceptibility; added to this are the frequent deaths of guinea pigs which have been used for the purpose of standardizing the various antitoxins.

At one time it was thought that the sudden deaths which followed the second injection of horse serum was entirely accidental and that the animal's resistance had perhaps been lowered by the initial dose; others attributed it to cold which was perhaps caused by the immediate injection into the animal of horse serum which had been kept at a low temperature in the ice chest. It was not until the fall of 1905 that any significance was given to the direct relationship which existed between the times of the first and the second injection.

It has long been known that the blood of certain animals is poisonous when transfused into certain other species; this holds equally true in injections. The clinicians of olden times observed this phenomenon in the course of their therapeutic work with transfusions. According to Rosenau and Anderson the first reference to this practice is June 15, 1667, when Von Denis transfused lamb's blood. Blood transfusion was practised for a number of years as almost a routine therapeutic measure but apparently as all novelties wear off it was almost entirely abandoned until about the beginning of the last century, when it was reintroduced and became a great therapeutic principle in the treatment of acute anaemia and the poisonings. At this time the disastrous results of the injection of the blood of one species into another was well recognized; emboli, haemorrhages, haemoglobinurea being the main symptoms.

In 1873 and 1875, Landois and Ponfick demonstrated that the blood of alien species caused solution of the corpuscles when brought into the circulation; the above workers should be given the credit for the discovery of that important phase of medicine namely haemolysis. Naunyn and Frank showed that the injection of dissolved haemoglobin into the circulation caused coagulation.

In 1874, Dallera reported that urticarial eruptions may follow blood transfusion. The relationship existing between the haemolysis caused by the injection of blood of alien species and the hypersusceptibility caused by the injection of small doses of proteid material into animals is interesting and most important and the two must to a certain extent be studied together. Other workers on the subject of haemolysis who should be given credit for their work are Pfeiffer, Creste, Weiss, Albu and Rummo.

Perhaps the earliest observation on the hypersusceptibility of animals to proteid material was that of Magendie; the latter

found that the intravenous injection of egg albumen into rabbits repeated within a certain number of days caused the death of that animal. This observation has a direct bearing on the condition of anaphylaxis.

In 1896 Knorr described a condition in which guinea pigs developed a sensitiveness to tetanus toxin. Von Behring and Kitaschina substantiated Knorr's work in 1901.

Harcourt and Richet in endeavoring to immunize dogs against eel's serum found that they were unable to accomplish this but that there appeared a definite sensibility in cases so far advanced that the dogs died. In 1902 Porter and Richet found that if dogs were given a small dose of a glycerine abstract from the tenacles of actinea and then in fifteen to twenty days given a second small dose the animals quickly died.

In 1903 Arthus reported that if a rabbit be given repeated injections of horse serum at some days' intervals, it caused, even in small doses, results which according to the number of previous and the methods of injection were local or general, and benign or grave.

In 1905, Von Pirquet and Schick described "the serum disease." These investigators found that the symptoms of the disease when caused by a second injection may either appear at once or after a period of incubation which was of a comparatively longer duration. To the first group they applied the term "immediate reaction;" to the latter the term "accelerated reaction." The train of symptoms which the authors describe are urticarial eruptions, joint pains, fever, swelling of the lymph nodes, oedema and albuminurea. This reaction is described as appearing usually after an incubation period of eight to thirteen days. These clinical findings are in direct relationship with the phenomena of anaphylaxis in animals; indeed the two are almost synonymous.

In 1905 Otto's article appeared. By his experimentations with diphtheria antitoxin he showed that the diphtheria toxin was in no way responsible for the hypersensitiveness of the guinea pigs which received more than one dose of the serum.

In 1905 Rosenau and Anderson published their most extensive work; this was but the beginning of a series of articles which has thrown much light on the study of anaphylaxis and it is to these authors that the writer has extensively referred.

The blood serum of the horse possesses no poisonous prop-

erty; it is, too, the proteid of selection since it is used so extensively in the treatment of the infectious diseases. As Rosenau and Anderson state very large quantities can be injected into man, guinea pigs and rabbits without any serious disturbance; a slight reaction being excepted, especially at the site of inoculation. In a few cases sudden death has followed the injection of horse serum in man and this phase of the subject will be more fully discussed in another part of this review. It is the general concensus of opinion among pathologists that horse serum is a comparatively mild and harmless substance when injected into certain animals; and yet these same animals may reach such an intense state of hypersusceptibility that even so small a quantity as 1/250 cc. may kill the animal or bring about most severe symptoms.

It has been proven that small injections usually hypersensitize; large injections produce immunity. Thus we may quote Rosenau and Anderson who say that when a rather large injection of horse serum is given within the so-called period of incubation (ten to twelve days) the condition of antianaphylaxis results which is nothing more than immunity. Immunization may be brought about by feeding one animal with the blood of another species; Metalnikoff has accomplished this by feeding horses' blood to white rats; the writer states that the serum of the rats, after a few weeks developed a marked agglutinative property; it also showed the property of haemolytic action.

Rosenau and Anderson have probably most vividly portrayed the sequence of events following repeated doses of horse serum in guinea pigs and the following is taken from their work. "As was stated above if a guinea pig is injected with a small quantity say 1/250 cc. of horse serum and after the expiration of a certain interval is again injected with horse serum the result will probably be fatal. The first injection of serum has sensitized the animal in such a way as to render it very susceptible to a toxic principle in horse serum. It is probable that when the guinea pig is injected with the first or sensitizing quantity of the serum, the strange proteid contained in the horse serum develops in the body of guinea pigs antibodies which when brought into contact with more horse serum, given at a second injection, produce either a union or reaction which causes the toxic action. A certain time is necessary to elapse between the first and second injection of horse serum before this toxic action

is able to manifest itself. This period of incubation is from ten to twelve days and corresponds with the period of incubation of serum disease which Pirquet and Schick place at eight to thirteen days. Guinea pigs may be sensitized with very small doses of horse serum. In most of the work done by Rosenau less than 1/250 cc. was used and it was ascertained that in one instance 1/1,000,000 cc. of horse serum was sufficient to render guinea pigs susceptible. It also requires very small quantities of horse serum when given in a second injection to produce poisonous symptoms. The symptoms are apparently the same whether the injection is made subcutaneously or in the peritoneal cavity. " In five to ten minutes after the injection the pig manifests indications of respiratory embarrassment by scratching at the mouth, coughing and sometimes by spasmodic, rapid or irregular breathing; the pig becomes restless and agitated. This stage of exhilaration is soon followed by one of paresis or complete paralysis. The pig is unable to stand or if it attempts to move, falls upon its side; when taken up it is limp; spasmodic, jerky and convulsive movements now supervene. Pigs in this stage with complete paralysis may fully recover. Convulsions may come on and are the indications of death. Symptoms appear about ten minutes after the injection has been given; occasionally in pigs not very susceptible they are delayed thirty to forty-five minutes." Only in one or two instances of several hundred pigs which Rosenau and Anderson have observed have symptoms developed after one hour. " Pigs developing symptoms as late as that are not very susceptible and do not die. Death usually occurs within an hour and frequently in less than thirty minutes."

The period of incubation slightly varies but it is now the general belief that the average time is from three to thirteen days. According to the American authorities the period of incubation appears about the seventh day in guinea pigs sensitized in the brain and on the ninth day in guinea pigs sensitized subcutaneously, Lewis states that the period of incubation is not to be considered as abruptly terminating at a given day. He says that he has made an animal quite sick by the intracardiac injection of two cc. of serum on the sixth day. Apparently the period of incubation is not appreciably prolonged by a large sensitizing dose. J. R. Currie says that the interval of time between the first and the second injection of the serum

is a primary factor in determining the abnormal reaction which has been regarded as evidence of supersensitization. Apparently the length of the interval is more essential to the phenomenon than the administration of the serum in large doses.

Various theories have been advanced as to the cause of the condition of hypersusceptibility or anaphylaxis—whether the blood serum of the horse contains a principle which brings on the condition; whether it is due to change in the integral part of the cell itself, etc. The question is still an open one but a review of some of the theories now held may be apropos at the present time.

Courmouts absorption theory would explain supersensitization on the hypothesis that the first injection of the active material leads to absorption of a natural protective substance and that the animal is left defenceless against the second injection. Bail has expressed the view that death after two injections of serum is associated with the production of a substance which impedes the activity of the leucocytes. Richet has suggested that the phenomena in question are due to the presence in the serum injected of two separate bodies of which one causes immunity and the other hypersusceptibility. Wolff formulated the endotin theory which has reference to the effects produced in the animal tissues by the liberation of poisons contained within the bodies of bacteria, whose external covering has been penetrated or dissolved as a result of defensive measures adopted by the animal concerned. In the opinion of Wolff there is no immunity to foreign albumens of the endotoxin class. Otto it seems supports the precipitive theory; according to him the presence of precipitins in the blood of animals or human beings, whether normal or supersensitized do not synchronize with the serum reaction.

Vaughn and Wheeler contend that both the sensitized and intoxicating substances are the same; they claim to have obtained positive results with egg white, which by boiling with absolute alcohol and a two per cent solution of Sod. Hydroxide liberated both a toxic and a non-toxic principle.

Wells who worked with pure proteins agrees with Vaughn and Wheeler and states that the intoxicating and sensitizing substance are the same. Wells has shown that 1/20,000,000 of a grain of pure egg white will fatally sensitize and that the minimum lethal dose for sensitized guinea pigs is about one-half

milligram when injected intraperitoneally and one-tenth to one-twentieth milligram when injected into the circulation.

Gay and Southard have made the following statements: "Horse serum contains a substance, anaphylactin, which is not absorbed by guinea pigs' tissues, is not neutralized and is eliminated from the animal body with great slowness. When a normal guinea pig is infected with a small amount of serum, the greater part of its elements are rapidly diminished. The anaphylactin, however, remains and acts as a constant irritant to the body cells, so that their avidity for the other assimilable elements of horse serum which have accompanied the anaphylactin becomes enormously increased. At the end of two weeks of constant stimulation on the part of the somatic cells, a condition has arrived when the cells if suddenly presented with a large amount of horse serum are overwhelmed in the exercise of their assimilating functions and functional equilibrium is so disturbed that local or general death may follow." Rosenau and Anderson look upon the etiology of anaphylaxis from a more conservative point of view. They believe that the substance which sensitizes is identical with that which later poisons it. They state that the first substance must cause a reaction in the organism resulting in the production of antibodies and it is these antibodies combining with the substance in the horse serum, that produces the toxic action. They do not believe that the true cause will be discovered until more is known of protein metabolism. These workers have, however, discovered the fact that the toxic principle whatever it might be is not affected by various chemicals such as calcium chloride, sodium nitrate, magnesium sulphate, ammonium sulphate and formaldehyde; they further state that it is not effected by the various ferments such as taka diastase, pancreatin, rennin, etc., and that it is entirely destroyed at a temperature of 100° C. for fifteen minutes. It is not affected by freezing at fifteen degrees Fahrenheit nor by filtration through porcelain, drying or precipitation; dialysis and exposure to X-ray apparently does not affect it.

The essential lesion of anaphylaxis is probably situated in the respiratory centre and the poison apparently acts upon the nervous system. Rosenau states that the heart occasionally beats a full hour after it has been exposed. This supports the view that death is caused through the action of the poison upon the nervous control of the respiration. Gay and Southard

emphatically agree with Rosenau and state that they believe the cause of death to be respiratory. The pathologic lesions found in animals that have died after the second injection of a foreign protein are not marked though most writers speak of the extensive congestion and the petichiæ, especially throughout the abdomen. There is usually a dilatation of the veins and capillaries with perhaps a congestion of the medullary portion of the adrenal gland. Fatty degeneration is spoken of but the American workers do not believe the latter to be a specific anaphylactic lesion. Gay and Southard remark that during the anaphylactic stage there are no characteristic lesions but that during the toxic stage the most striking lesions are found; such as multiple haemorrhages, most frequently found in the stomach, caecum, lungs and heart.

From a practical standpoint regarding the action of horse serum on man as compared with the action upon other animals, scientists are of the opinion that but rarely can man be sensitized in the same way as can animals of a lower type such as the guinea pig and rabbit. It has been customary to immunize numbers of children when exposed to diphtheria with antitoxin serum at intervals of from three to four days, which, according to Rosenau and Anderson has never caused a death. Pirquet and Schick in their work on "Serum Krankëit" give the instances in which children received two injections of horse serum at intervals of from sixteen to forty-two days between the first and second injection. All these cases show this in common that after the first injection of horse serum the disease appears after the normal incubation period of eight to thirteen days but when the same individuals are again injected with the serum after sixteen to forty-two days there appear at once or at least within twenty-four hours symptoms of serum disease. According to these writers, man reacts to the first injection of horse serum after a period of incubation of eight to thirteen days, guinea pigs show practically no reaction following the first injection. Both react to a second injection. The reaction in man and guinea pigs therefore differ both in severity and in kind. From the above it may be gleaned that anaphylaxis in the guinea pig and serum disease in man are analogous.

Gillette and others say that those patients which react to a primary injection of the serum are almost invariably affected with asthenia, which disease may be attributed to some abnor-

mality in the respiratory centre. The sudden deaths which have occurred following the administration of antitoxin, in patients who were suffering with some form of asthma may perhaps be explained by the action of the serum upon the respiratory centre which may be dependent upon the disease itself.

In 1907 Goodall gives his observations on ninety patients who had received two injections of horse serum; of these forty-three and four-tenths per cent gave either an immediate or accelerated reaction. It is well known that nurses and physicians, who are working in institutions and who are especially subject to diphtheria often have definite signs of serum disease after the second injection of antitoxin, an interval of perhaps three or four weeks elapsing between each injection.

It has been definitely determined that horse serum in cases followed by sudden death is no more toxic for guinea pigs than the antitoxic sera used extensively in human therapy without untoward symptoms.

Conclusions

1. Anaphylaxis is a condition of hypersusceptibility of the organism to foreign bodies. (Rosenau and Anderson.)

2. Anaphylaxis in the guinea pig and serum disease in man are analogous.

3. Anaphylaxis is brought about by a substance in horse serum which is caled anaphylactin. (Gay and Southard.)

4. Anaphylaxis may be produced by all the proteids with the exception of gelatine.

5. The administration of antitoxin should be given as freely and as in as large amounts as required, care however, being taken that the second dose is not given within the fifteenth to forty-fifth day after the initial dose.

J. L. Donhauser.

Public Health

Edited by Joseph D. Craig, M. D.

Department of Health—Albany, N. Y.

Abstract of Vital Statistics, April, 1911.

Deaths.

Consumption	27
Typhoid fever	2
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	0
Grippe	3
Diarrhoel diseases	5
Pneumonia	19
Broncho-pneumonia	2
Bright's disease	10
Apoplexy	7
Cancer	10
Accidents and violence	7
Deaths over 70 years	36
Deaths under one year	24
Total deaths	172
Death rate	20.91
Death rate less non-residents	17.75

Deaths in Institutions

	Resident.	Non-resident.
Albany Hospital	12	5
Child's Hospital	0	2
County House	2	3
Homeopathic Hospital	6	3
Hospital for Incurables	0	0
Little Sisters of the Poor	4	0
Home for the Aged	0	0
Public Places	1	1
St. Margaret's House	2	1
St. Peter's Hospital	8	4
St. Vincent's Male Orphan Asylum	1	0
Austin Maternity Hospital	3	0
Albany Hospital, Tuberculosis Pavilion	1	3
Confederation of Labor	0	0
Totals	40	22
Births		122
Still births		8

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation, there were two hundred sixty-five inspections made of which one hundred fifty-nine were for old houses and one hundred six for new houses. There were sixty iron drains laid, twenty-one connections to street sewers, twenty-six tile drains, three urinals, sixty-two cesspools, one hundred two wash basins, one hundred fourteen sinks, one hundred two bath tubs, ninety-one wash-trays and one hundred forty-six tank closets. There were two hundred thirteen permits issued of which one hundred seventy-eight were for plumbing and thirty-five for building purposes. There were fifty-four plans submitted of which twelve were for old buildings and forty-two for new buildings. There were forty-six houses tested, two with blue or red and three with peppermint and there were forty-one water tests. Twenty-eight houses were examined and sixty-four were re-examined. Fourteen complaints were found to be valid and fourteen without cause.

Bureau of Contagious Disease.

Cases Reported

Typhoid fever	5
Scarlet fever	14
Diphtheria and croup	5
Chickenpox	4
Measles	54
Whooping-cough	0
Consumption	35
Total	117

Contagious Disease in Relation to Public Schools.

	D.	S. F
Public School No. 6	1	.....
Public School No. 8	....	1
Public School No. 9	....	2
Public School No. 10	....	1
Public School No. 13	1	.....
Public School No. 14	....	1
Public School No. 15	....	2
Public School No. 20	1	.....
High School	....	1

Number of days quarantine for diphtheria:
Longest..... 33 Shortest..... 11 Average..... 18 1/5
Number of days quarantine for scarlet fever:
Longest..... 64 Shortest..... 7 Average..... 32 4/8
Fumigations:
Houses..... 33 Rooms..... 160

Cases of diphtheria reported	5
Cases of diphtheria in which antitoxin was used	5
Deaths after use of antitoxin	0

BENDER LABORATORY REPORT ON TUBERCULOSIS

Positive		11
Negative		12
Failed		0
Total		23

TUBERCULOSIS.

Living cases on record April 1, 1911		346
Reported during April:		
By telephone	0	
By Bender	0	
By card	20	
	20	
Dead cases by certificate	11	
		31
		377
Dead cases previously reported	16	
Dead cases not previously reported	11	
Duplicates	3	
Recovered	0	
Removed	2	
Unaccounted for	3	
		35
Living cases on record May 1, 1911		342
Total tuberculosis death certificates filed during April, 1911		27
Out of town cases dying in Albany	0	
Out of town cases dying in Albany Hospital	2	
Out of town cases dying in County Hospital	3	
		5
Net city tuberculosis deaths		22

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	3
Initial negative	57
Release positive	6
Release negative	5
Failed	18
Total	89
Test of sputum for tuberculosis:	
Initial positive	12
Initial negative	16
Total	28

Bureau of Markets and Milk.

Market reinspections	121
Public market inspections	23
Fish market inspections	3
Pork packing houses inspected	3
Slaughter houses inspected	1

18 lbs. of chickens destroyed.

Miscellaneous.

Mercantile certificates issued to children	14
Factory certificates issued to children	20
Children's birth records on file	34
Number of written complaints of nuisances	45
Privy vaults	3
Closets	2
Plumbing	15
Other miscellaneous complaints	25
Cases assigned to health physicians	74
Number of calls made	227

Society Proceedings

Medical Society of the County of Albany

Memorial Meeting—Seth G. Shanks, M. D.

A special meeting of the Medical Society of the County of Albany was held in the library of the Albany Medical College on Wednesday, Nov. 9th at 5 P. M., to take action on the death of Dr. Seth G. Shanks. Dr. John H. Gutmann, President of the Society occupied the chair. There were present, Drs. Blatner, Corning, Cook, Herrick, Houghton, Gutmann, C. H. Moore, Munson, Murray, MacFarlane, Lipes, Ullman, A. Vander Veer and J. N. Vander Veer.

On motion of Dr. Albert Vander Veer the chair appointed a committee of five to draft suitable resolutions on the death of Dr. Shanks and named as members of this committee the following: Drs. Albert Vander Veer, Ullman, Cook, Munson and Murray.

Dr. Albert Vander Veer then addressed the meeting, paying a tribute to Dr. Shanks; he said in part, "Dr. Shanks was Dr. Hailes' first student and was greatly interested in microscopy an interest that he retained throughout his entire life. He was at one time offered a lectureship in anatomy but refused with characteristic modesty. Dr. Shanks was known to all as an earnest and conscientious practitioner and aroused in his patients an unusual degree of loyalty."

Dr. Ullman then paid the following tribute to the memory of Dr. Shanks: "Dr. Shanks and I have known each other for about 34 years. We practiced in the same West End community and have spent many

hours together both professionally and socially. He is no more. I always regarded him as a friend, in the true nature as the word implies. He was of a kind disposition, modest and of an unassuming demeanor; always ready to extend any advice when asked. We have interchanged views often in council in the sick room. As an obstetrician his assistance and opinion proved of much value to me and the patient; and on many occasions either day or night, more often nights, we have worked together on some difficult case As a careful and considerate physician my regard for him was of the best. We as young fellows beginning practice about the same time, and later on, grew grey in the service, still cherishing our friendship and good will, would exchange our practice during our absence. Only a few weeks ago I took charge of some of his patients and a little later when I went away from home on a vacation mine in turn were sent to him; this mutual exchange extended for many years, and always with entire satisfaction. I knew him very well, his habits were excellent, a love for his family circle, making a good husband and an indulgent father. He was musically inclined, a busy worker with the microscope, a lover of literature and delighted in fresh air pedestrianism, daily making his visiting rounds on foot. As a man I always found him truthful, kind and fair, our frequent contact permits me to use the word square. We have been long friends and for me as one I miss Dr. Shanks."

The Secretary then read the following letters from Dr. Tucker and Dr. Stillman:

"I greatly regret that my regular lecture at the College of Pharmacy at 5 o'clock on Wednesday afternoon will prevent my being present at the special meeting of the society called to take action on the death of Dr. Seth G. Shanks of which meeting I have just received notice. Otherwise I should certainly have attended the meeting that I might have testified by my presence to the regard and esteem in which I held our late associate and friend. And I should have been glad to have added my testimony to those who will witness to his ability and integrity; to the faithfulness and devotion with which he discharged his professional duties, and to the unselfishness, simplicity and straightforward uprightness of his character. He will be greatly missed by a wide circle of friends and in his death our society has sustained a decided loss." (Signed) W. G. Tucker.

"I have received a notice of the special meeting of the County Medical Society which is to be held on Wednesday afternoon, November 9th, at five o'clock to take action on the death of Seth G. Shanks, M. D., of Albany. As I shall be presiding at an important meeting to be held in Troy from four to five P. M. on above date it will be impossible for me to be present.

"I do not wish the occasion to pass, however, without a kindly word of appreciation of our late colleague. Dr. Shanks graduated some three years before I did but we were students in the same office and fairly well acquainted at the beginning of our medical careers. Dr. Shanks was a peculiarly unassuming and modest man, sincerely devoted to the scientific aspects of his profession, and I believe, a student to the last.

I have many pleasant memories of those early days and can truthfully say that nothing occurred which could ever mar the esteem and respect in which I held Dr. Shanks. He was a man of fine mind, noble character and an ornament to the profession, although never particularly conspicuous before the public. Nevertheless, he was one of those men of sterling worth that help to make the medical profession honorable in the community and to win the confidence and support of the public.

"I greatly wish that I could be present at this meeting but shall be obliged to ask you to present my brief testimonial of affectionate regard and appreciation of our dead comrade. (Signed) W. O. Stillman."

Dr. James Vander Veer made a motion that a picture of the late Dr. Shanks be obtained and published in the Albany Medical Annals, the motion was seconded by Dr. Munson and passed. The committee appointed by the chair to draft the formal resolutions on Dr. Shanks' death submitted the following minute:

"As a tribute of esteem to our worthy brother, Dr. Seth G. Shanks and to record upon the Annals of the Society we present the following resolutions:

"*Resolved,* That in the death of Dr. Seth G. Shanks the profession have met with a severe loss. That we had a high appreciation of his integrity in all the relations of life. That he loved his profession and was an industrious and indefatigable worker.

"*Resolved,* That while he courted no fame or popularity, yet among his professional brethren he was appreciated and most highly esteemed; and the recollection of his useful and exemplary life, will long be fragrant in our memories.

"*Resolved,* That we tender to his immediate family our deepest sympathy and assure them that in their loss the whole community has its share. (Signed) Albert Vander Veer, W. H. Murray, G. L. Ullman, G. S. Munson, L. H. Cook."

The meeting then adjourned.

Erastus Corning,
Secretary.

John H Gutmann,
President.

A regular meeting of the Medical Society of the County of Albany was held on the evening of Tuesday, November twenty-second, at the rooms of the Albany Historical and Art Society. Dr. S. Lewis Ziegler, of Philadelphia, was the guest of the evening, and chose for his subject "The Chemistry of Metabolism and its Relation to Ocular Disease." Dr. Ziegler's paper was listened to with much interest and was discussed by Drs. Munson, Rooney, A. Vander Veer, MacFarlane, Bedell.

At the close of the meeting a reception was tendered Dr. Ziegler at the University Club.

Erastus Corning, *Secretary.*

John H. Gutmann, *President.*

A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College on the evening of Thursday, December 29, 1910. The President, Dr. John H. Gutmann, presided, and the following members were present: Drs. A. J. Bedell, E. Bedell. Blair, Craig, Corning, Curtis, Cronin, Gutmann, Holding, C. G. Hacker, Lanahan, Lomax, Lempe. Moore, Meyers, Myers, MacFarlane, D. V. O'Leary, Jr., Papen, Jr., Rooney, Rulison, Washburn, Fromm.

The minutes of the last meeting were approved. There were no committee reports. Dr. MacFarlane said: "We have all seen in the papers the reports of the project to acquire the site of the old penitentiary for a new and enlarged medical college. We should as a representative medical body endorse this movement." Dr. MacFarlane then introduced the following resolutions which were adopted:

WHEREAS, The Albany penitentiary from its location and size has become a financial burden to the tax-payers of the county as a county jail and the necessity of its discontinuance and the erection of a small and accessible county building is becoming increasingly evident.

WHEREAS, The Albany Medical College from the increased number of its students and the necessity for more extensive laboratories has now outgrown its present building.

Resolved, That the members of this society urge upon the board of supervisors the conveyance of this site to the Albany Medical College where the alumni, teaching body and friends of the institution can erect buildings which will be a credit to the city and county and a constant incentive to medical progress.

Dr. PAPEN introduced the question of the Medical Directory as published by the State Society, saying that its value was questionable, and urging the advisability of discontinuing it. Dr. Curtis said that he considered the Directory was a valuable source of information not easily obtainable otherwise. Dr. Craig suggested that the matter be referred to the delegates. It is not yet known whether the majority are in favor of abolishing the Directory or not, and until such information is at hand, agitation is better than the passing of resolutions. Dr. Papen then moved that the matter be referred to the delegates without instructions. Motion seconded and carried.

Dr. HOWARD E. LOMAX read the first paper of the evening, his subject being "An Accessory Pectoralis Major Muscle," the paper being illustrated with a watercolor painting of a specimen of this abnormality found in the dissecting room of the Albany Medical College.

Dr. CRAIG in opening the discussion said that it was a source of satisfaction to him to have those rare conditions noted and reported. We have excellent material, and abnormalities of many kinds are found not infrequently. The value of these findings should not be confined to the students and instructors in the course, but should be made available to all as part of the literature on that subject.

Dr. CORNING said that the literature on this particular abnormality was rather small, and that the best work in this country had been done by Huntington of New York. He gave a brief review of Huntington's work.

Dr. JEROME MEYERS presented a paper on "The Differential Diagnosis of Early Carcinoma of the Stomach, and Benign Subacidities."

In opening the discussion Dr. MacFarlane said that he had derived great pleasure from listening to Dr. Meyers' able paper, and felt that the society were indebted to him for so thorough a resumé of the subject. He said in part: "We all appreciate the difficulties in border line cases. The nervous control of the stomach is so easily upset, and the compensatory action of other organs in supplying temporary deficiencies is so great, that diagnostic methods are fallible, and we are apt to be led astray. There is urgent need for concerted action to control the spread of this disease."

Dr. ROONEY said: "There is always a time when suspicion is justifiable, and when that time comes, the patient should be given the benefit of the doubt. Be suspicious and thorough in your examinations. Slight changes, such as loss of the desire for smoking, peculiarities of taste, etc., should put us on our guard. We should remember that only fifty per cent of cases show changes in motility, as only fifty per cent of cases develop at the orifices. With increasing anaemia and progressive loss of weight and loss of appetite, we should operate. I have used Crile's subcutaneous hemolysis in six cases, and have found it to be of value. This diagnostic procedure was not mentioned by Dr. Meyers. It depends on the action of oleic acid on a suspension of red blood corpuscles introduced subcutaneously. We should avail ourselves of every possible diagnostic aid, as too often dilute hydrochloric acid or milk of magnesia is allowed to take the place of a painstaking examination."

Dr. BLAIR said: "I have recently been looking over the statistics of cancer in comparison with other diseases. The prevalence of tuberculosis is diminishing, but the prevalence of cancer is increasing at an alarming rate—104% since 1880. We must remember though that our present increased expectation of life brings more within the cancer zone."

Dr. MEYERS in closing said: "We should bear in mind the fact that achylia gastrica is practically symptomless except for the finding of connective tissue in the feces. This is pathognomonic of subacidity and usually of cancer. We must not overlook the possibility of cancer occurring in young individuals. I have a case at present of carcinoma involving the anterior wall of the stomach in a man aged twenty-one years.

"Do not depend on one examination—two or three are often necessary. The nervousness of the patient at the first examination may cause a decrease of acid. Another point to be borne in mind is that there is often a difference of from twenty degrees to thirty degrees in total acidity, and of from ten degree to fifteen degrees in Free Hcl. at different levels of the stomach, hence if we do not get the tube down as far as the pylorus we may get a low acidity."

The meeting then adjourned.

ERASTUS CORNING, *Secretary.*

JOHN H. GUTMANN, *President.*

Medical News

Edited by Arthur J. Bedell, M. D.

Albany Guild for the Care of the Sick—Department of Visiting Nursing—Statistics for April, 1911. Number of new cases, 163; *classified as follows:* Dispensary patients receiving home care, 4; district cases reported by health physicians, 5; charity cases reported by other physicians, 55; moderate income patients, 85; old cases still under treatment, 137; total number of cases under nursing care during month, 300. *Classification of diseases for the new cases:* Medical, 59; surgical, 3; gynecological, 0; obstetrical under professional care, mothers, 52; infants, 45; infectious diseases in the medical list, 10; infectious diseases in the surgical list, 1; removed to hospitals, 4; deaths, 11.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 3; number of new patients during month, 2; number of cases discharged, 1; visits by attending obstetrician, 3; visits by students, 1; visits by nurses, 9; total number of visits for this department, 13.

Visits by Guild Nurses (all departments).—Number of visits with nursing treatment, 1,577; for professional supervision of convalescents, 382; total number of visits, 1,959. Cases reported to the Guild by five health physicians and forty-one other physicians. Graduate nurses seven, and pupil nurses thirteen on duty.

Dispensary Report.—Number of clinics held, 86; number of new patients, 104; number of old patients, 341. *Classification of clinics:* Surgical, 11; nose and throat, 2; eye and ear, 16; lung, 13; nervous, 4; skin and genito-urinary, 8; medical, 12; children, 12; gynecological, 8.

Medical Society of the County of Albany.—At a meeting of the Society held May 10, 1911, Dr. John H. Gutmann read the presidential address on "Co-operation of Physicians."

At a meeting of the Society held on May 18, 1911, at 4 p. m. in the Historical and Art Society Building, Dr. Joseph N. McCormack, member of the Council on Health and Public Instruction, American Medical Association, addressed the physicians on, "The Economic Side of Medicine." In the evening at 8.30 p. m. in the Auditorium of the State Normal College, he gave a popular lecture, choosing as his subject, "The Public and Its Relations to Practical Sanitation and Hygiene."

Medical Society of the County of Schenectady.—A regular meeting of the Society was held at the County Court House, Tuesday, May 9, 1911, at 8.30 p. m. The following papers were presented: "The Bacteriological Examination of Milk," by Dr. William C. Treder; "Hemorrhagic Diseases of the Newborn, Report of a Case," by Dr. Lester Betts; "The Treatment of Pneumonia Based on the Elimination of Sodium Chloride," by Dr. E. MacD. Stanton.

Homeopathic Hospital, Albany, N. Y.—Tag Day, held May 20, 1911, netted the Homeopathic Hospital $6,400.

Tuberculosis Pavilion of Albany Hospital.—Work has been commenced for the improvement and enlargement of the Tuberculosis Pavilion of the Albany Hospital which is situated on the Sand Plains, west of Albany.

Vivisection Bill.—On April 29, 1911, the Senate defeated the vivisection bill which gives the Governor power to appoint a commission of seven to investigate the methods of vivisectionists.

International Medical Association.—The annual general meeting of the association was held March 21, 1911, at Paris.

American Red Cross.—The American Red Cross announces in connection with the International Conference of the Red Cross which will be held at Washington, D. C., in May, 1912, that the Marie Feodorovna prizes will be awarded. These prizes, as may be remembered, represent the interest on a fund of 100,000 rubles which the Dowager Empress of Russia established some ten years ago for the purpose of diminishing the sufferings of sick and wounded in war. Prizes are awarded at intervals of five years and this is the second occasion of this character. These prizes in 1912 will be as follows:

1 of 6,000 rubles
2 of 3,000 rubles each.
6 of 1,000 rubles each.

The subjects decided upon for the competition are:

(1) Organization of evacuation methods for wounded on the battle field, involving as much economy as possible in bearers.

(2) Surgeon's portable lavatories for war.

(3) Methods of applying dressings at aid stations and in ambulances.

(4) Wheeled stretchers.

(5) Support for a stretcher on the back of a mule.

(6) Easily portable folding stretcher.

(7) Transport of wounded between men of war and hospital vessels and the coast.

(8) The best method of heating railroad cars by a system independent of steam from the locomotive.

(9) The best model of a portable Roentgen-ray apparatus, permitting utilization of X-rays on the battle field and at the first aid stations.

It rests with the jury of award how the prizes will be allotted in respect to the various subjects. That is to say, the largest prize will be awarded for the best solution of any question, irrespective of what the question may be.

Further information may be obtained by addressing the Chairman, Exhibit Committee, American Red Cross, Washington, D. C.

Personals.—Dr. William L. Allen (A. M. C. '81), formerly of Rensselaer, N. Y., is now located at 258 Sonna Building, Boise, Idaho.

—Dr. William T. Miller (A. M. C. '81), formerly of Cobleskill, is now located at 778 State street, Schenectady, N. Y.

—Dr. Edward J. Stephens (A. M. C. '81), has moved from 26 Pearl street to 230 Genesee street, Utica, N. Y.

—Dr. Robert Doran (A. M. C. '93), who has been medical inspector in the State Lunacy Commission, has been appointed Superintendent of the Long Island State Hospital at Flatbush.

—Dr. Parker H. Murphy (A. M. C. '96), has moved from 95 Lake avenue to 117 Lake avenue, Rochester, N. Y.

—Dr. Alvah H. Traver (A. M. C. '98), has moved his office from 217 State street to 27 Eagle street, Albany, N. Y.

—Dr. Howard A. La Moure (A. M. C. 1900), has resigned his position at the State Hospital for the Insane, Grafton, North Dakota, to become Superintendent of the State Hospital, Pueblo, Colorado.

—Dr. Clayton K. Haskell (A. M. C. '01), is now practicing at 560 Monroe avenue, Rochester, N. Y.

—Dr. Silas L. Filkins (A. M. C. '04), is now located at 501 West 170th street, New York.

—Dr. Edward Miltimore (A. M. C. '05), is now located at 126 127th street, New York City.

—Dr. Frederic Conway (A. M. C. '06), has moved from 217 Madison avenue to 292 Madison avenue, Albany, N. Y.

—Dr. Joseph F. Harris (A. M. C. '06), has moved from 568 West 149th street to 300 Central Park, West, New York City.

—Dr. Erastus Corning (A. M. C. '07), was recently appointed attending physician at the Albany Hospital in the Tuberculosis Department.

—Dr. Morris Bellin (A. M. C. '09), is now practicing at 126 Central avenue, Albany, N. Y.

—Dr. Arthur E. Pitts (A. M. C. '09), has moved from 255 Quail street to 869 Madison avenue, Albany, N. Y.

Marriage.—Dr. Wallace J. Aubry (A. M. C. '10), of Champlain, was married on May 10, 1911, to Miss Dora Thomas, of Granville, N. Y.

Death.—Dr. J. Wiltsie Knapp (A. M. C. '72), died at West End, Syracuse, N. Y., April 14, 1911, from nephritis, aged 58.

In Memoriam

Charles Nathaniel Hewitt, M. D.

The following touching memorial to the late Dr. Hewitt has been issued by the Loyal Legion:

Charles Nathaniel Hewitt, descended from a well-known New England ancestry, was born in Vergennes, Vermont, June 2, 1836. The family soon after moved to Pottsdam, St. Lawrence County, N. Y., and there he passed his childhood. He was put to school at the famous academy of Cheshire, Connecticut, from which he was sent to Hobart College, Geneva, N. Y. Here, after passing through the old regular classical college course, the only course of the time, he was graduated bachelor of arts, in 1856, at the age of twenty. His father was a physician and the boy early took to the same profession. He had made such progress in amateur medical study in boyhood that while he was still an undergraduate student at Hobart, he filled capably the post of demonstrator of anatomy in the medical department of the college. He was accorded a similar position in the medical college at Albany, N. Y., where he obtained his diploma of doctor of medicine in 1857.

Dr. Hewitt at once established himself in practice in Geneva, under circumstances of a most encouraging nature. A few short years passed and there was a call to a sphere of professional activity far different from that he had been preparing for.

The affair of Bull Run spelling victory for the confederacy and shameful disaster for the unionists, dispelled any illusions of peaceful arbitrament of the quarrel which weakened and sundered ties of national unity. The dogs of war were loose and must run their course of havoc and ruin.

Colonel Charles B. Stewart then Chief Engineer of the United States Navy, residing in Geneva, N. Y., conceived the idea of recruiting a regiment of volunteer engineers, foreseeing that there would be early and urgent need for such troops. He had no difficulty in obtaining the leave of the War Department and the proper order for his purpose. In the course of a single month in the summer of 1861, the ranks were full and the companies were in rendezvous at Elmira, N. Y. Now it was discovered that congress had not provided for the raising of any such volunteer engineer troops, and the United States mustering officer was without authority to recognize an Engineer Regiment. What he could do, and did, all concerned acquiescing, was to muster in the regiment as infantry and give it the number "50" in the line. How the command was later increased to 12 companies of 150 officers and men each and placed upon the same footing in every respect, as engineers of the regular army, need not be related.

Without the least exertion on his part Dr. Hewitt was commissioned assistant surgeon of the Fiftieth Engineers. His chief was his old preceptor in medicine, a surgeon of more than local eminence. The whole administrative work of the regimental medical work fell at once on the junior surgeon. The retirement of his superior after some months on account of disability due mostly to age, threw on him the responsibility

as well as the labor. The distribution of the command into battalions of varying size, for bridge, fortification, pontoniering and other duty converted the surgeon into a sort of medical circuit rider. Mounted on his beautiful mare "Fannie" whose body lies buried in the garden at Redwing, Dr. Hewitt flitted from camp to camp, intent always as much in keeping the men well, as in curing them when sick. Dr. Letterman, Hooker's medical director said "Dr. Hewitt is the best regimental surgeon in the army of the Potomac."

His field hospitals were always ready and fully supplied. He relied quite as much on his cooks as on his stewards, his chief remedies for sickness being rest, fresh air and good food. The only complaint men made was that he would not "doctor" enough.

He was then, as a boy surgeon, an advocate and practitioner of antiseptic surgery, and fresh air treatment for convalescents. He used to say that he would rather keep men who had undergone capital operations under a tree in the field than in the best general hospital in the United States.

A testimony to his thoroughness, is the duplicate record kept of his hospital cases. By means of his retained copy he was able to assist many a deserving veteran to a rightful pension and in some instances to protect the government from fraud.

In the last years of the civil war Dr. Hewitt was chief surgeon of the Engineer Brigade of the Potomac, and received at the close the brevet of lieutenant-colonel, in consideration of his eminent services.

At the close of the war Dr. Hewitt came to Minnesota, and opened medical practice at Redwing. Here he soon after married and established a home for the remainder of his days. The house was a rambling wooden cottage, but it sheltered a little world of love and beauty for him and his little circle.

There were books in all the rooms, pictures on all the walls, and a pipe organ alongside the usual piano. There was a snug greenhouse heated from the furnace, and an ample garden well cultivated. An immense elm spread its shade over the grounds and a screen of wild grape vine half hid the house front. One must have known Dr. Hewitt as host and head of a household in this modest Redwing cottage, to really know the man. It was here that his finest nature blossomed. So content was he with that home, his neighbors, and the city of his choice that repeated calls to large opportunities for the display of his acknowledged professional gifts never moved him.

It was only when in 1872 the State Board of Health was created and he was offered the position of executive secretary, the duties of which he could carry without a change of residence, that he found something that was worth his while to add to the care of his patients and his regular studies. Here was a field in which he had already as army surgeon had an encouraging experience. It meant to him more than merely fighting off epidemic diseases; it meant the education of communities in the arts of keeping well. Into this field of sanitary science and practice he threw himself with the enthusiasm of a great soul called to a great cause. For a quarter of a century the flame of that enthusiasm burned ever brighter. To his public duties he sacrificed his private practice, his studies, and many of the comforts of his home.

But the place had its rewards. At the beginning but one physician in the state medical convention stood with him on the proposition that diphtheria was a communicable disease. He brought the whole membership to his ground, with the result that in a certain term of years diphtheria decreased in Minnesota fifty per cent in number of cases, while the population of the state had increased fifty per cent.

To ensure a supply of perfectly pure vaccine matter he operated a vaccine farm in Goodhue county for a number of years. Small pox was stamped out of Minnesota.

Dr. Hewitt was keenly alive to all new developments in medicine. He believed from the start in Koch's discovery of the cholera bacillus, and accepted Virchow's declaration that the profession must at any rate act on the supposition that the particular bacillus is the proximate cause of cholera. He was naturally ready to accept and put into practice the new learning in regard to pneumonia, typhoid and tuberculosis. All proven to be communicable diseases. To equip himself for the new medicine, he went to Paris and placed himself under the instruction of Pasteur. It was his good fortune to attract the attention of that great man and to enjoy a brief friendship with him.

The enthusiasm and attainments of Dr. Hewitt did not remain without recognition by his colleagues. He was made president of the American Association of Public Health, and was elected an associate of the Society of Health Officers of England. He was honored in like manner by the Société d'Hygiene of France.

In 1891 he attended the International Congress of Medicine and Demography in London, a most imposing assembly of physicians and health officers from all nations which was opened with a speech by the late King Edward.

That was a splendid career of service of a quarter century. The doctor had never needed to ask for reappointments, and had never dreamed that the exigencies of politics could affect an office so remote from political storm centers as his. Entering his office one morning in 1897 his eye fell on a paragraph in a daily newspaper announcing the appointment of his successor. It was the work of a few minutes to gather up the few papers and articles personally belonging to him and to speak a word of farewell to his faithful assistants. It is no exaggeration to say that Dr. Hewitt left that office a broken-hearted man. He could never be induced to re-enter it nor to hold any communication with his successor and late colleagues.

This was all the state of Minnesota had for a man who had devoted the best years of his life to her dearest interests. So he took the matter. He could never see that he was getting what is likely to come to any man who serves the fickle public. The governor who removed him had no enmity against him. He simply needed the place for another good man.

The services of Dr. Hewitt through the State University ought not to be overlooked. In the early 70's before any class had been graduated the doctor began instruction in public health and for many years gave his annual course of lectures. His principal topics were, the "hygiene of the individual," the "hygiene of the home," and the "hygiene of the city."

His lecture on "Temperance" not lurid, not sensational, was calculated to make a deep impression of the evils resulting from the excessive abuse of narcotics and intoxicants. It is a misfortune that this lecture never, so far as known, found its way to print. For this generous service Dr. Hewitt never asked nor received a dollar, but the regents complimented him with the title of "Non-resident Professor of Public Health." He was the first man in the country, it is believed to offer such regular instruction in any public school, and the University of Minnesota was the first to embrace the subject in a curriculum.

The doctor was naturally interested in the development of the medical college provided for in the organic law of the University, and contrived a way by which a start could be made without a legislative appropriation. It consisted in the organization of an examining faculty which was not to teach, and did not teach, but passed upon the merits of candidates for the medical doctorate, whether prepared by medical institutions or private preceptors. The examining professors, of which he was chief served without pay. A small number of candidates was graduated. The absorption of a private medical college by the University with an unpaid faculty, superseded the temporary but not fruitless organization devised by Dr. Hewitt. The doctor was still far too much interested in his specialty of Public Health to abandon it for a chair in the medical college which was offered him when the health of the public then found little hospitality.

Why he was permitted to terminate his annual course of free lectures to academic students, is not known to the public, and friends have surmised that the regents would hardly be able to render a reason creditable to themselves.

Dr. Hewitt's activities extended far beyond his professional engagements. In the busiest years of his life he carried on the primary education of his children, and taught as no mere schoolmaster can be expected to. He had a notable musical gift. When in college he sang in the student choir. He long maintained his interest in church music. For many years he instructed in his own house in Redwing a choir of boys and young men, whom he taught along with music, courtesy, honor and love of holy things.

Not the least of his accomplishments, was the most happy gift of off-hand—genuine off-hand—speaking. His friends believed he spoke best when he had no suspicion of being called out.

He was always a busy student and writer, but did not care to elaborate for publication. After his retirement from office he spent his winters in the national capitol, devoting his time to a History of Medicine. Whether the work was left in readiness for the printer is not known. He was of opinion that the great physicians of antiquity although ignorant of anatomy, still possessed arts of diagnosis and healing which moderns have to rediscover.

Dr. Hewitt's death occurred July 7, 1910, at Summit, N. J., where he was visiting his daughter.

The commandery thus sorrowfully adds an honored name to its lengthening roll of departed companions, and Minnesota loses a citizen who loved her well and served her loyally.

Current Medical Literature

SURGERY

Edited by Albert Vander Veer, M. D., and Arthur W. Elting, M. D.

The Salvarsan Therapy, Past and Future (Die Salvarsantherapie, Rückblicke und Ausblicke).

P. Ehrlich. *Münchner medizinische Wochenschrift, No. 13, January,* 1911.

Ehrlich emphasizes the fact that every new drug should be carefully tried out before it is generally recommended, and he stated that he had this end in view when he first sent it out to the clinicians. He further stated that he sent the preparation to both friend and opponent in order that an impartial test might be made. His only request was that the observations and results should be reported to him. He felt that salvarsan should only be given out generally after it had been tried in from twenty to thirty thousand cases, which he thought would be sufficient to demonstrate its action, its indications and contraindications, its dose and its dangers. This preliminary work has now been finished. He never felt that it was a remedy which would cure with a single injection of a small dose, and he feels that the original excessive optimism has been in part replaced by an unjustified pessimism.

It has been demonstrated that the preparation is one of the most powerful specifics against syphilis, and far exceeds any other method in the rapidity of its action. The unfavorable results of its use, he takes up in detail.

He first considers amaurosis. Because of the cases of blindness resulting from the use of atoxyl and arsazetin, the idea has become current that salvarsan might produce the same effect. About twenty-five thousand cases have so far been reported in which the remedy has been used, and there is no positive evidence to show that salvarsan has actually caused any permanent disturbance of vision.

Five cases have been reported, but Ehrlich has investigated these cases and states that he does not believe that they can be fairly regarded as a result of the use of this drug. On the other hand numerous cases have been reported in which salvarsan has produced the most remarkable improvement in serious syphilitic lesions of the eyes. His conclusion is that salvarsan as such does not exercise an injurious influence upon the eyes. He considers in considerable detail the injurious effects claimed to have been produced upon the hearing, and his conclusion is that these cases are really instances of recurrences of the syphilitic processes in the eighth nerve and are not disturbances of the nerve produced by salvarsan. He further states that certain foci of syphilitic germs may, because of their location, escape the sterilizing influence of salvarsan, and this is especially true of deposits of the germs along the nerves where the vascular supply is more or less limited and where the drug is not apt to exercise its influence. This he believes is the ex-

planation for the so-called "nerve recurrences" of syphilis after the use of salvarsan.

He next takes up the question of toxicity, and states very positively that it is quite impossible that any drug of marked disinfecting properties should be quite harmless. He calls attention to the fact that when he originally gave out the drug, he distinctly stated that it should not be used in cases with very excitable hearts, or in cases of heart disease, vascular degeneration, aneurysm, hemorrhages of the brain, or in old people. Furthermore, he advised against its use in severe nephritis, diabetes, and ulcer of the stomach. He goes over carefully the fatal cases reported from the use of salvarsan, and finds that in practically every instance the contraindications which he originally stated have been overlooked, and that the fatalities have occurred in instances where the drug should not have been used.

He furthermore calls attention to the possibility of coincidence and states that he knows of five cases in which it had been proposed to give the injections, but for some reason or other they were postponed for a few days and the patients died in the interval. Had the injections been given and the patients died, they would have been regarded as the result of the use of the drug.

Only five cases of death in all have been reported, and when one considers that the drug has been used in from twenty-five to thirty thousand cases of all sorts and descriptions, and furthermore, that the investigation of these five cases leaves great doubt as to the relationship of the drug to the death, it is evident that it possesses but little toxicity.

The bladder disturbances he believes are probably due to oxidation of the preparation before its administration. He calls attention to the fact that salvarsan has also a wonderful tonic effect, especially for the blood. It has also been demonstrated that salvarsan is of great benefit in other diseases, due to different varieties of spirilla. He believes that the dosage for the most part has been too small, and feels that inasmuch as it may not be desirable to give very large doses, it may be necessary to repeat the injection several times. The permanency of the cure cannot positively be demonstrated as yet, but he calls attention to the fact that the treatment of syphilis with certain other forms of arsenic has appeared to give satisfactory permanent cures.

An additional point in favor of the permanency of the cure is the fact that in two instances typical reinfections have been reported. He regards it as conclusively proven that all phases of the manifestation of syphilis have been rapidly cured by the use of salvarsan. The question as to whether it is a radical cure could not be positively demonstrated, but he regards the fact that repeated injections will produce a negative Wasserman reaction in from seventy to ninety per cent. of the cases as a very strong argument in favor of the actual curative properties.

He feels that it may often be desirable to use salvarsan in association with mercury and iodide, and believes that it is always wise to attack the invading microorganism with as many weapons as possible. He believes that a single injection of a sufficiently large dose will destroy most of the infection and that repeated doses in the great majority of instances

will destroy the rest. He believes that in very early cases, a single injection may be absolutely and positively curative. He believes that the period of experimentation is, in a measure, in the past, and that the drug has won a positive place in the therapy of the disease, and that, furthermore, it has produced remarkable results in many instances in which Iodide and mercury were ineffectual and in other cases where recurrences were frequent. He believes that salvarsan is the most powerful drug yet proposed for the treatment of syphilis and he hopes that ultimately the great ideal of a therapia sterilisans will be achieved.

Hysterical and Spastic Intestinal Obstruction (Hysterischer und spastischer Darmverschlub).

O. Nordmann. *Deutsche medizinische Wochenschrift, No.* 10, *March* 10, 1910.

Our knowledge of the innervation of the intestine and the origin of the peristaltic movements is rather meager, even under normal physiological conditions and it is very much more meager under pathological conditions. Heidenhain in 1897 first called attention to spasm of the intestinal musculature and the resulting symptoms of ileus. Wilms in his monograph on ileus has devoted especial attention to this subject. In the majority of these cases general disturbance of the nervous system, especially hysteria, can be regarded as the underlying factor. At times it is difficult to determine whether these disturbances of the nervous system cause the paralysis of the intestine or the circumscribed spasm of its musculature, and it is furthermore difficult to decide which of these conditions is responsible for the symptoms of obstruction.

The writer reports three cases from a clinical standpoint.

The first was that of a girl twenty-five years of age with very definite evidence of hysteria, who presented all the symptoms of intestinal obstruction. This condition lasted for four days and finally yielded to medical treatment with recovery. There was constant vomiting and inability to obtain movement of the bowels or passage of gas, although there was a great deal of colicky pain. The writer believes that this colicky pain indicates that there was a spasm of the intestine rather than paralysis.

The second case was that of a woman forty-five years of age, who had some evidence of general nervous disturbance, particularly sensory disturbance. She presented a pronounced distention with extreme sensitiveness of the lower part of the abdomen, associated with fecal vomiting. Diagnosis of peritonitis and obstruction was made and an operation performed. The small intestine, together with the cecum, was markedly distended. There was no evidence of peritonitis or of any disease of any of the organs. The middle of the ascending colon presented a pronounced contraction, which extended throughout the rest of the large intestine. The wall of the intestine was hard and rigid. There was nothing to be felt in the lumen. By manipulation gas was forced into

the contracted intestine from the cecum and the abdomen was closed. Fecal vomiting continued for ten days. General condition, however, remained fairly good and from the eleventh day on, recovery was uneventful. The striking feature of this case was that the general condition remained so good in spite of the evident obstruction. The writer believes that in this case hysteria was the essential underlying cause.

The third case was that of a woman sixty-six years of age, rather stupid and with no evident disturbance whatever of the nervous system. The illness came on suddenly with severe pain in the right side of the abdomen and vomiting. Pain was continually present and there was complete intestinal obstruction. Four days later she was admitted to the hospital; the abdomen was much distended; no peristaltic movements visible. Because of the serious general condition, an operation was performed and at the very lowest portion of the ilium there was a marked contraction extending over a space of about 10 c. m. Proximal to this there was a marked distention of the entire small intestine. All of the intestine distal to the contraction was collapsed. A tube was inserted into the distended intestine well above the contracture. The patient died twenty-four hours later. At autopsy there was absolutely nothing abnormal found. The contracture had of course largely disappeared and there was nothing abnormal in the lumen or the intestine and all of the organs were normal. Death was undoubtedly due to stercoremia resulting from the obstructed contracture of the intestine.

It is a well-known fact that foreign bodies in the intestine as well as ulcers may produce a reflex spasm with the symptoms of ileus, but in none of these cases was this condition present. Diagnosis of a spastic obstruction of the intestine might be ventured in the presence of a marked general disturbance of the nervous system, especially hysteria. The diagnosis, however, would be impossible in the absence of nervous symptoms.

In the majority of instances where the diagnosis of hysterical spasm is evident, medical treatment will generally suffice; when doubt, however, exists, an exploratory operation is certainly much safer. Every case which presents this symptom complex, should be sent to a hospital where it can be carefully watched and operation had at short notice.

The assumption of Körte, Wilms and others, that a spasm of a portion of the intestine is associated with a paralysis of the proximal portion, seems reasonable. Otherwise we should expect peristalsis of the proximal portion to overcome the spasm.

The writer concludes that intestinal obstruction may result from spasm of a portion of the musculature. The cause is generally some disturbance of the nervous system. A most careful examination at operation or autopsy may not yield any explanation. The treatment in the evident presence of nervous manifestations may be conservative as long as the general condition of the patient remains good. When this becomes disturbed enterostomy is indicated. Prognosis is good if paralysis of the intestine is not associated; it is bad where marked paralysis is associated.

ALBANY MEDICAL ANNALS

ASSOCIATION OF THE ALUMNI OF THE ALBANY MEDICAL COLLEGE—THIRTY-EIGHTH ANNUAL MEETING.

The thirty-eighth annual meeting of the Association of the Alumni of the Albany Medical College was held in the amphitheatre on Tuesday, May 16, 1911. The usual informal reception was held in the college library, where photographs were exhibited, and greetings exchanged between the hours of 9 and 11 A. M. The meeting was called to order by the President, Dr. Mark M. Lown ('77) of Rhinebeck, N. Y., at eleven-thirty o'clock.

The following named members of the Association, with invited guests, students of the college and others interested, were present: Alfred B. Huested, ('63); Albert Vander Veer, ('69); D. C. Case, Willis G. Tucker, ('70); Geo. Conkling, John Van R. Hoff, G. L. Ullman, ('71); D. H. Cook, ('74); Wm. Asbury Hall, E. T. Rulison, ('75); M. M. Lown, ('77); F. H. Brewer, J. H. Cotter, Chas. A. Ingraham, W. O. Stillman, ('78); E. A. Bartlett, W. J. Nellis, ('79); L. E. Blair, F. L. Classen, Nelson Everest, W. P. Mason, J. H. Mitchell, E. E. Rulison, ('81); Henry C. Finch, A. Y. Myers, F. A. Palmer, William B. Sabin, W. W. Scofield, ('82); Robert Babcock, L. B. Rulison, ('84); A. S. Capron, J. A. Robson, ('86); A. MacFarlane, Chas. H. Moore, H. F. C. Muller, ('87); J. M. Mosher, F. S. Snow, Wm. Van Doren, Thos. C. Washburn, ('89); W. H. Happel, ('90); Walter H. Conley, Charles E. Davis, Lewis R. Oatman, Arthur B. Van Loon, ('91); E. J. Gallagher, Leo H. Neuman, ('92); T. W. Jenkins, P. G. Waller ('93); Ralph Sheldon, ('94); J. C. Sharkey, ('96); H. Judson Lipes, ('97); W. L. Fodder, ('97); Charles S. Prest, James F. Rooney, A. H. Traver, Edgar A. Vander Veer, ('98); Christian G. Hacker, E. E. Hinman, Joseph A. Lanahan, ('99); Luther Emerick,

George Lenz, (1900); A. J. Bedell, John M. Griffin, A. Holding, ('01); John H. Gutmann, S. S. Ham, F. C. Reed, ('02); J. N. Vander Veer, ('03); John I. Cotter, J. B. Garlick, ('04); C. W. Louis Hacker, Samuel Kemp, M. J. Keough, G. W. Papen, Jr., ('05); A. S. Dederick, Wm. A. Krieger, ('06); J. L. Bendell, Erastus Corning, Herbert J. Wright, ('07); E. W. Fuller, John J. Lyons, Ray Ernest Smith, ('08); M. Bellen, H. H. Drake, A. E. Pitts, ('09); Thos. W. Maloney, Arthur E. Wells, ('11); J. M. Bigelow, (Hon.).

On motion of Dr. Neuman, the reading of the minutes of the last annual meeting was dispensed with and the minutes were approved as printed in ALBANY MEDICAL ANNALS.

The President introduced Professor Leo H. Neuman, who delivered the following address of welcome on behalf of the faculty:

ADDRESS OF WELCOME.

DR. NEUMAN'S ADDRESS.

Mr. President and Gentlemen:

In accordance with custom, it is my pleasure and privilege, this year, to extend to you on behalf of the Faculty of the Albany Medical College a hearty welcome. As a graduate of our Alma Mater it is indeed an agreeable duty to greet you on the occasion of this reunion and to come in touch with so many who are bound by the strongest ties of loyalty to the old school. This comes at a time which is making history for our Alma Mater and which, to you who are about to join the large body of Alumni, is an occasion of moment.

The past year has been an eventful one for the Albany Medical College. Overpowering in sadness is the death of Prof. Willis G. Macdonald. This calamity occurred when his progressive mind, recognizing the necessity for new college buildings and equipment, was originating ways and means for the accomplishment of this end. It is imperative that this work should go on. The Macdonald Laboratory of Physiology will be a fitting monument to this great surgeon and teacher of surgery.

Considerable discussion has taken place as to the best means for medical education. Should medical teaching be confined to a few large and abundantly endowed institutions or is there a place for the small medical college? There is a feeling in some quarters that a few large medical schools will most efficiently serve the country. With the tendency in commercial enterprises and in production to combination, it has been held that the smaller medical schools should be abolished and that the teaching of medicine should be put in the hands of a few largely endowed institutions that would not be dependent on tuition fees for maintenance. The interchangeable method of factory production is economically correct in manufacturing, but should not be applied in medical learning. Medical teaching cannot be syndicated. It must be largely individual. Much of

the knowledge of medicine must be acquired by personal study directed by a teacher in close communion with the student. Much of it cannot be taught to large classes. Tradition and sentiment are still energizing forces in influencing the formative mind of the student and are an inspiration to the teacher in clinical medicine. The enthusiasm of the teaching force, when the work is largely a free offering, cannot be excelled by men who solely devote their lives to teaching on a salary basis. With the former, teaching is something which the teacher gives of his very self.

The teaching centers of medicine have always been the points from which have radiated new ideas and discoveries. It is to the interest of the community that this competition of intellect should continue. It is more desirable that the profession should be trained under a variety of minds and methods than that a few great teachers should mould professional opinion during its most receptive mood. Truth in medical theory can only be attained by the most catholic methods of instruction.

The advance of medical science makes a need of greater facilities in medical teaching. To meet this need the Faculty has felt that our school must be adequately equipped with modern appliances. While we recognize that the inspiration for teaching is not brick and mortar, but rather the enthusiasm and zeal of the teaching body, still ability to use modern discoveries and methods requires laboratories and scientific apparatus of recent invention.

The policy of our school has always been to occupy an advanced position in medical education and to give to the student body an essential and practical working knowledge of medicine. The advances in physiological chemistry and in clinical laboratory methods have made the need urgent that the school should be newly equipped. The hospitals in Albany are modern and the Bender Laboratory is adequate for its purpose, but the old building of the school has outlived its usefulness. There is, therefore, an urgent need to provide a new building and, as most of you know, steps have been undertaken to get a portion of the penitentiary grounds through a perpetual lease from the county as a site for the new Albany Medical College. This site is on high ground and is as near to the Albany Hospital as is the Bender Laboratory. Our buildings would therefore be grouped in a location which is accessible and which would permit growth.

The Albany Medical College with its seventy-three years of accomplishment must measure up to the high standard it has always held. It must continue, in this day and generation, to live up to the same ideals that animated Alden March and James H. Armsby and James McNaughton and Thomas Hun and T. Romeyn Beck.

A college that numbers thousands among its graduates, many of whom hold a foremost place in the medical world, will be able to raise the needed funds to keep it abreast of the times. That the instruction of to-day is well up to the highest standards is shown by the comparative results of the State Boards of examination. In the case of the present class it is a matter of pride that nearly every man has secured a hospital position in competition with the graduates of other schools.

What we need is a concerted effort to raise the funds necessary for the new college buildings. The united efforts of the Faculty are now directed to this end and the earnest assistance of every alumnus is expected. A nucleus is already in the treasury. Are you ready to work with might and main for the new building? If every graduate of the school will use his best endeavors, next Commencement Day will see the plan well matured for the new Albany Medical College.

Gentlemen, on behalf of the Faculty of the Albany Medical College on this occasion of your home coming, again I bid you a most cordial welcome.

On motion of Dr. F. H. Brewer, the thanks of the Association were tendered Professor Neuman for his address and a copy was requested for publication.

Dr. John H. Cotter then moved that the President appoint a committee of five to nominate officers for the ensuing year. Carried. The President appointed as such committee: Drs. John H. Cotter ('78), Charles A. Ingraham ('78), Erastus Corning ('07), Elbert T. Rulison ('75), and Charles Bernstein ('94).

The Recording Secretary presented the

Report of the Executive Committee and Recording Secretary

Two meetings of the Executive Committee have been held during the year.

At the first meeting held June 10, 1910, the Recording Secretary was authorized to publish the minutes of the thirty-seventh annual meeting of the Association in the Albany Medical Annals and to provide reprints for distribution to the members of the Association. The Treasurer was directed to pay for the cost of the reprints and the envelopes for mailing. It was announced that the reprints would be mailed with the College Catalogue, postage to be paid by the Faculty. There was no report for the class of 1890, which as a decennial class should have been represented in the transactions. The report of the committee on the entertainment on Alumni Day showed the receipts and disbursements to be $395. The Corresponding Secretary was authorized to make a correct list of alumni with addresses, and also prepare and mail circulars as desired.

The second meeting was held on February 23, 1911. The Treasurer's report showed a balance on hand of $73.04. The Corresponding Secretary reported progress in the revision of the list of graduates of the College, and was authorized to mail a circular letter requesting corrections, and also to inform the alumni of the different matters now under consideration by the management of the College. A committee of three was appointed to consider the advisability of conferring with the Board of Trustees to secure an alumni representation on that Board. A motion recommending revision of the Constitution of the Association was adopted, and

a committee of five was appointed for arrangements for the Alumni Reunion.

On motion of Dr. Willis G. Tucker, the report of the Executive Committee was accepted and ordered entered upon the minutes.

The Treasurer, Dr. Robert Babcock, presented his report for the year as follows:

TREASURER'S REPORT

CR.

Balance on hand May 1, 1910	$17 10
Dues received during year 1910	155 00
Total	$172 10

DR.

Various bills paid for which vouchers are presented	$112 46
Balance on hand May 1, 1911	$59 64
College Building Fund	$122 29

[Signed] ROBERT BABCOCK,
Treasurer.

On motion of Dr. Tucker, the Treasurer's report was referred to an auditing committee, consisting of Drs. Sautter, C. W. L. Hacker and C. H. Moore, who subsequently reported it correct. The report of the Auditing Committee was received and the committee discharged, and the report of the Treasurer was accepted and ordered placed on file.

President Lown then called for a report from the Committee on the Publication of the ALBANY MEDICAL ANNALS, which was presented by the Recording Secretary:

To the Association of the Alumni of the Albany Medical College:

Gentlemen: The ALBANY MEDICAL ANNALS is now in the thirty-second year of its publication. During that time it has had periods of great depression, requiring special financial contributions from its friends: at times greatly encouraged, but always endeavoring to maintain such a degree of medical journalism as to command the respect of the profession and to further the prosperity of the Alumni Association.

In 1891 by vote of the Alumni Association it became the official journal of that organization.

For the past ten years its receipts and expenses have been about equal, scarcely any financial aid being given the editor-in-chief for his arduous task in the cost of publication, and the balance to the credit column has been exceedingly small.

Under the editorial management of Dr. J. M. Mosher the ANNALS has improved in many ways, is attracting the attention of other journals,

as well as able writers in the medical profession, and to-day presents greater evidence of prosperity than at any time during its existence.

Some two years after Dr. Mosher was appointed editor, a meeting of the committee in charge of the journal was held, and it was decided to increase the price of subscription to two dollars per year. There was really no falling off in the list of subscribers, and the result has enabled the editor to increase the size of the publication, from time to time, as well as to meet some necessary expenses incurred in issuing the ANNALS monthly.

There are quite a number of medical journals which come as exchanges, and these are made use of by the various chairmen, and their associates, in charge of the departments, from which abstracts are prepared and appear in the various numbers of the journal.

The books sent for review are given to such able writers as are willing to perform this work.

It is the opinion of your committee that the editorial management is business-like, the makeup of the journal pleasing and impressive, and the quality of the editorials such as to indicate a high order of medical journalism, all of which is greatly appreciated in the many pleasant notices that from time to time have appearing regarding its work. Your committee is also glad to report that at no time have they felt so encouraged as at the present regarding the future of the ANNALS. They would earnestly appeal to the members of the Alumni Association for additional subscribers, while regretting to say that not only officers, but members, who are receiving the honors that come to them in being connected with the organization, have failed to subscribe.

A. VAN DER VEER,
WILLIS G. TUCKER,
ANDREW MACFARLANE.

May 12, 1911.

President Lown announced the next order to be

MISCELLANEOUS BUSINESS

and then offered the following suggestions for the consideration of the Association:

Gentlemen: With your permission I wish to offer a few suggestions or recommendations for your consideration:

First. It might be well for the Association to appoint a committee of five from its membership and which should be carefully chosen, to consider the remodeling of our constitution. They might also take into consideration the wisdom of having the Executive Committee hold quarterly meetings at which time any suggestion or communication from the Alumni could be discussed and all matters be put into good shape for discussion at the annual meeting. They also could probably evolve a better or more satisfactory scheme for the election of our officers than prevails at present.

Second. The general condition of this Association is not in any sense

what it should be and is capable of being, and I believe it would be profitable for us to discuss this matter before the tide recedes still further.

Third. The class histories and photographs now stored in the College Library which are too valuable to be lost and which could not be replaced, should be placed in some secure building.

Fourth. It has been suggested that a museum of instruments be instituted and I understand that there are many ancient and historic instruments in the office lately occupied by Dr. Macdonald that could be obtained as the beginning of such a collection.

Fifth. I think we should have a committee report on the ANNALS each year, together with other matters pertaining to it, which might serve to augment interest in this publication and increase its circulation.

Sixth. The small sum of one dollar a year Alumni dues is hardly up to the spirit of the times and it leaves no fund for any purpose.

Seventh. Is this society willing that those who do not pay dues and hence are not members should enjoy its privileges and take an active part in its proceedings?

Eighth. Any suggestions that are made for discussion leaves so little time for thought when the Executive Committee makes its annual report that I think it would be well for them after their last meeting to send to each member a letter stating the principal subjects which are to be discussed at the annual meeting.

Ninth. I believe there are three branches of the general Alumni Association, in New York City, New England and Central New York. Might it not add to the interest of each of these as well as the general Association to have them in some manner represented?

Dr. Neuman moved that the recommendations offered by President Lown be reported to a committee for consideration and that the recommendations of the committee be sent to the Alumni before the next annual meeting. President Lown stated that he wished this committee to be appointed by the Association, and the following members were placed in nomination: Drs. L. H. Neuman ('92), J. N. Vander Veer ('03), James H. Mitchell ('81), Arthur G. Root ('90), L. B. Rulison ('84), M. J. Keough ('05), J. M. Griffin ('69), F. H. Brewer ('78), Robert Babcock ('84), T. W. Jenkins ('93).

A ballot was taken, and the committee was announced to be: Drs. J. H. Mitchell ('81), A. G. Root ('90), J. N. Vander Veer ('03).

President Lown then extended an invitation to Dr. A. Vander Veer to address the Association on the proposed plan for the enlargement of the college and the erection of new college buildings. Dr. Vander Veer described the project in full, and at the close

of his address a vote of thanks was moved by Dr. Neuman and unanimously adopted.

The President's address being the next order of business, Dr. Scofield, an Ex-President of the Association, was called to the chair and President Lown delivered the following address:

President Lown's Address

Gentlemen of the Alumni: That we may in no sense forget what is due the teachers in our college, what is due to this our Association, to our brother Alumni, and not less to ourselves, it is well that we make this annual pilgrimage, not merely to attend to the material affairs of the Alumni Association, but to those which appeal to us from an infinitely higher standpoint; the concerns pertaining to our common brotherhood.

"There are no ties in life that bind us so closely as those of home and kindred: centering about the family circle, following each member with tenderest solicitude wherever out in the broad world he may roam, these are the strongest, the most enduring of our natures; as they increase our joys, they divide our sorrows; as they enhance our pleasure, they mitigate our grief; and the trials, the changes of life weaken not their hold, dissolve not their life long clasp but so long as conscious life remains, they preserve the same freshness as when in the morning of life few clouds arose above our horizon."

Coming with tenderest years or in days of manhood, the friendships of life and its associations are woven into and become a part of our very being; and through life every normal human being turns toward others for sympathy, for comradeship, for brotherhood; the Brotherhood of Man. And while I am speaking particularly of that brotherhood which should exist in this society if we are to maintain it as an incentive for higher thought, as an inspiration toward better living, as a home where we may greet each other as brothers indeed, I am thinking too that brotherhood should not be confined to special acts or special times of public fellowship. It should not be limited to chosen associations or societies. The true coin of brotherhood passes current everywhere and blesses every one who welcomes its help. The spirit of genuine brotherhood will thereby master our life, if we will but allow it an entrance and foster the growth of this tender plant.

Let us pause a moment to explain what we mean by the brotherhood of man, and it certainly is not that we think all men are equal in all respects for it is their very inequality which makes brotherhood a necessity and furnishes the only condition under which true brotherhood can be developed and made manifest. If all men were created equal in health and strength, in wealth and the power of producing it, in all the attributes and qualifications of manhood, there would be no need of mutual help and a spirit of independence would prevail that would effectively exclude all brotherly sympathy and helpfulness.

By advocating a universal brotherhood we do not mean that we hope for or would make if we could all men equal. Men are not and neither does it seem to me to be desirable that they should be more nearly

equal in brain than in brawn, in intellectual height than in physical station, in spiritual than in mental attainment.

A world of absolute equality is not only an impossibility but such a world would be a stagnant world however high the standard of excellence. With such conditions all men would have the same education, would do the same work, occupy the same position, and how impossible such a world would be. There would be no movement toward a higher standard, no incentive to better living, no ambition for greater achievement.

If all men were doctors, patients would be very few: if all lawyers there would be a dearth of clients: if ministers they would preach to empty sittings. Supposing it possible that all men were literary or professional, from whence would come the supply of food, clothing and other essential necessities? On the other hand if all were producers who would there be to lead up to a higher civilization, to civic righteousness, to spiritual advancement?

Again brotherhood does not demand that different races or unequal individuals should be on terms of social equality or companionship. In fact it is well known that such conditions may readily lead to the defeat of true brotherhood. It is not necessary nor desirable that a white man should take unto himself a negro wife in order to become a true brother to that race. He can exercise a more brotherly influence by not making it a practice to maintain terms of social equality. It is a universal opinion that the dominant white races can be of immensely greater service to our brothers in every sense of the so-called inferior races without the intermingling of blood.

Races of men may and ought to, and history proves that they can exist side by side in daily contact and exhibit a true brotherly spirit without becoming amalgamated into one great mongrel race.

Brotherhood may prevail in our nation where so many races live side by side and may prevail among all nations, tribes and families of the whole earth, and yet the differences of race, customs and even religion remain unchanged.

We scarcely need add that brotherhood does not depend necessarily on any social order. It can transfuse with its spirit and elevate by its power any or all social orders. On the other hand where its spirit exists only in name, it will mar any society, take away the power of development and usefulness of any association, and destroy the life of any fraternity without hope of resurrection.

Individualism, socialism, aristocracy and democracy may be brought under the dominion of brotherhood and be made truly serviceable to mankind as a whole.

It is even possible that autocracy might not be inconsistent with brotherhood, providing of course that the autocrat would himself yield to the demands of brotherhood in such manner as to give of his strength, his wisdom, and his intelligence to make those people subject to him not merely comfortable and contented but to make of them full-fledged men and women: and indeed it is conceivable that this might be better than a democracy where every one was disregarding the rights and privileges of those whom he called brother.

Christian brotherhood is more consistent with a slave industrial system, where masters endeavor to enlighten and elevate their slaves and make them in spirit at least free men and women, than with a system of free labor when tyranny begotten of wealth among the so-called "upper classes," endeavors to keep in bondage those who earn a livelihood by the sweat of their hands, and who, in their turn are seeking constantly and without discrimination to destroy the wealth and power of those whom they conceive are above them.

Autocracy and slavery are utterly inconsistent with the practice and spirit of christian brotherhood because such systems cannot permanently exist in the same communities with wide diffusion of the spirit of brotherly kindness; existing together the tendency of each is toward the destruction of the other. Either the spirit of brotherly kindness will abolish autocracy and slavery and anything approaching thereto, or they in turn will submerge it.

Brotherhood, in the first place as it applies to the relationship between the strong and self-reliant, as well as to the relationship between the strong and the weak, means simply justice; it means fair play and a square deal; it means a practical application of the divine command "As ye would that others do to you" to all the affairs and relationships of life.

I do not wish to be understood as implying that this means an equal opportunity for all men, for unequal men could not embrace fully an equal opportunity if it became possible for them to have it. But it does mean an opportunity for every man commensurate with his ability and energy.

Brotherhood means in the second place, in the relationship of the strong to the weak, of the wise to the ignorant, the rich to the poor, the well favored to the unfortunate, sympathy and consideration, mercy and compassion; tenderness, and kindness and love.

It is the spirit that leads a man to consider his neighbor that he may in some manner do him good, and look upon the poor and afflicted that he may assist them with the bounty that has been granted him. It is that disposition that causes a man to overcome in some measure his natural selfishness and consider the rights of his neighbors as well as those of his own. No man who is truly a brother to his fellowmen will endeavor in any manner to lower the position another may honorably occupy, though it may be seemingly above his own possibility, but will seek in every way to elevate those beneath him to their highest possible level.

In this connection, there is another condition that brotherhood must stand for and that is mutual respect. It must mean something more than kindness or friendliness. We may be kind and friendly to the dumb animals, but there cannot exist between us and our dog or horse the bond of mutual respect of which we have been speaking. We cannot be a brother to an animal however fond of them or affectionate toward them we may be.

There is some reason if we could discover it for respecting every man or woman with a feeling toward them that we cannot have toward

any member of the lower orders of creation. From every person however ignorant it is possible to learn something. In every human being however vicious and depraved, it is not impossible to find some seed of good, at least there is a possibility of improvement, change and betterment in every individual member of our race and we can respect for what it is possible for them to be, even though we cannot possibly discover anything in his present condition to inspire such a sentiment.

"One of the most reliable supports of that which is best in men is faith in other men. In truth I believe that no man can lose his faith in men and women and remain as good a man as he was before the loss." From the time we are children and have that absolute faith in father and mother, through all our years we garner our faith in individuals, and so all men and women however humble and unworthy they may be, become in a measure the object and recipients of this faith and in so far as our influence may be exerted over those who have faith in us, every man carries the burden of his race and his brotherhood, and if he be a man, he will neither ignore it nor try to shake it off.

Concluding, I wish very briefly to suggest that the Brotherhood of Man is the complementary doctrine to the Fatherhood of God. For those who believe in Him the one principle implies the other, and one cannot exist without the other. Admit our common fatherhood and you must of necessity admit that all men are brothers. The inequalities existing among men that make brotherhood necessary as well as possible would impeach the goodness of and contradict this Fatherhood were it not for the open channels of human brotherhood through which His power and love flow ceaselessly through the more fortunate to the less fortunate. If inequality exists only for the advantage of the well favored and the fortunate how can there be any justice in the idea of a common Fatherhood but if every man is his brother's keeper, some rich to care for the poor, some wise to teach the ignorant, some strong to support the weak, then we can reasonably assert this Fatherhood in spite of an infinite number of mysterious details that we cannot fully comprehend.

Brotherhood, then, seems chiefly to be composed of three ingredients—Love, Service, and Sacrifice. We must learn to love our brother men. We cannot truly love them without serving them, and we cannot serve our fellow-men in any real and effective manner unless we in some way and in some measure sacrifice ourselves.

Gentlemen of the Graduating Class: Of the duties pertaining to this position none is more pleasing to me than that of welcoming you to this association: as the past few weeks have gone by I presume you have become surfeited with advice and far be it from me to further inflict you, but I would be pleased to say briefly that the highest wish we have for you at this your Commencement is that you make of yourselves the best physicians of which you may be capable: and not only this but that you become something more than mere physicians.

It is only through our highest manhood that we may hope to reach our greatest development in any direction.

Mrs. Browning, the sweet songstress, never uttered more in all her lines than when in an inspired moment she wrote, "I do believe in God and love" and with God and the broad love of humanity in life it becomes essentially a noble and beautiful thing, and to live a life thus moulded is a priceless privilege no matter at what cost of transient pain and unremitting toil.

It is above callings and professions and creeds, bringing to its nourishment all good and appropriating to its power of development all evil.

It is the greatest and best thing. Place cannot enhance its honor, wealth cannot add to its value, position cannot exalt its dignity for it is the highest thing.

Its course lies through true manhood, through true fatherhood: through true friendships and relationships whatever they may be.

It may lie through sorrow, and pain, and poverty and all earthly discipline. It does lie through unswerving truth to God and man, through heroic self-denial and patience.

You, and I, and all may approach the perfection of such a life if we will, for its great strength lies but in the simple performance of every conscientious duty: and it leads not only to the highest joy our life here will ever bring to us, but to the path guiding toward the Great Beyond. May such a life be ours and may it lead us all to say:

"I believe in God and the power of truth,
In the wisdom of age and the strength of youth,
I believe in the pure heart of each little child,
And an atom of worth in the wretch defiled.
I believe in man and womanhood
And in work, humanity's greatest good.
I believe in the fight till the victory's won,
And a smile for death, when life is done."

The members of the Class of 1911 were present in a body, and rose as the President addressed them at the conclusion of his address, and received them into membership in the Association.

Dr. James H. Mitchell moved a vote of thanks to the President for his touching, instructive and eloquent address, a copy of which he was requested to furnish for publication in the Albany Medical Annals. Dr. Scofield put the motion to a vote, and declared it unanimously carried.

The report of the Historian of the Association, Dr. Bedell, was then presented and ordered entered on the minutes.

Report of the Historian, Arthur J. Bedell, M. D.

Mr. President and Fellow Alumni: In reporting the college events of the past year several subjects present themselves to mind.

On December 8th, a general meeting of the teaching body of the college was held in the Chemistry room, at which time it was decided

to give the salaries paid for the year to the College Trustees as an addition to the building fund. It was also announced that the Penitentiary site had become available for the new college, and a committee was appointed to confer with the Supervisors of the County of Albany, who have control of the Penitentiary. Subsequently this committee and a committee from the Board of Trustees of the College met with the Supervisors and as a result a bill, which provides that the college buildings must be erected within three years and giving the Supervisors power to transfer the Penitentiary site was introduced in the Legislature and has since been signed by Governor Dix.

On December 30, 1910, as you all know, Doctor Willis G. Macdonald died in Albany. Dr. Macdonald had done much for the college, and it was decided fitting that an appropriate memorial be erected to his memory. The committee up to the present time secured $18,000, as a nucleus of a fund for the Macdonald Memorial Laboratory, to be erected on the new grounds.

On March 28, 1911 the State Library in the Capitol was destroyed by fire, which is a point of considerable interest to our Association, for it must be remembered that many years ago the library of the Albany Medical College was given to New York State as a nucleus for the Medical Department of the Library. At the time of destruction there were 20,000 books, 10,000 pamphlets and 600 periodicals in the Medical Department, and we begin to realize the extent of our loss when we remember that the State Library is also our college library, and as such is always open to our students. It is therefore important that each and every one urge upon his separate legislator the immediate need of reconstruction, and liberal appropriation for the purchase of new books.

Forty-three men have passed their examinations and will be received into our Association to-day. The class of 1911 is well prepared to start the practice of medicine, although a very large percentage will take hospital work before starting private practice.

As is customary, the historian urges every member to send a list of his appointments, change of residence, change of social condition, or anything concerning our men. The attention of the new members is earnestly called to these points.

The past year has taken many of our graduates thirty-eight in all.

Necrology.

Robert S. McMurdy ('46), Minneapolis, Minn., April 29, 1910, aged 85.
Randall Williams ('48), Le Roy, N. Y., Sept. 16, 1910, aged 86.
James M. Wheat ('53), Redlands, California, Nov. 27, 1910, aged 85.
William C. Butman ('54), Macon, Mo., Nov. 12, 1910, aged 83.
Leonard M. Johnson ('55), Greene, N. Y., aged 80.
Charles N. Hewitt ('57), Red Wing, Minn., July 7, 1910, aged 74.
Elias Bedell Boyce ('58), Averill Park, N. Y., Sept. 23, 1910, aged 72.
Albert P. Jackson ('62), Oakfield, N. Y., Nov. 9, 1910, aged 67.
Robert C. Tuttle ('63), Roscoe, N. Y., Nov. 10, 1910, aged 76.
William Hendrickson ('63), Coupeville, Wash., May 30, 1910, aged 68.
Ely Van de Warker ('63), Syracuse, N. Y., Sept. 6, 1910, aged 86.

Daison D. Drake ('64), Johnstown, N. Y., July 29, 1910, aged 72.
Hugh Sloan ('65), Utica, N. Y., Sept. 7, 1910, aged 66.
William L. Johnson ('65), Johnstown, N. Y., June 26, 1910, aged 66.
Orrel McFadden ('65), Massena, N. Y., Dec. 29, 1910, aged 74.
Alonzo R. Stephens ('65), Herrickville, Pa., Feb. 10, 1910, aged 75.
Isaac E. Randall ('66), Bay City, Mich., Jan. 20, 1911, aged 66.
Henry W. Boorn ('66), Schenevus, N. Y., Nov. 8, 1910.
William H. Nichols ('67), West Sand Lake, N. Y., Oct. 31, 1910, aged 60.
Edward R. Aiken ('68), Aiken, Nebraska, March 18, 1911, aged 65.
Robert H. Neefus ('70), Dalton, Mass., Feb. 18, 1910.
Seth G. Shanks (75), Albany, N. Y., Nov. 5, 1910, aged 63.
Edward E. Brown ('79), Bath, N. Y., October 6, 1910, aged 76.
John W. Gould ('80), Newark, N. J., January 16, 1911, aged 71.
William Clark Cooper ('81), Troy, N. Y., March 17, 1911, aged 51.
Willard E. Hillegas ('82), Chicago, Ill., Sept. 21, 1910.
Russell J. Dimon ('83), Hastings, N. Y., March 28, 1911, aged 58.
Frank H. Fisk ('83), West Sand Lake, N. Y., Jan. 22, 1911, aged 50.
Newton E. Heath ('83), Lee, Mass., Jan. 7, 1911, aged 50.
Thomas P. Scully ('85), Rome, N. Y., April 19, 1911.
Willis G. Macdonald ('87), Albany, N. Y., Dec. 30, 1910, aged 47.
John W. Kniskern ('90), Amsterdam, N. Y., Feb. 1, 1911.
William S. Ackert ('91), Poughkeepsie, N. Y., Nov. 8, 1910.
Edward Stevens ('98), St. Paul, Minnesota, June 11, 1910, aged 34.
George S. Post ('99), Rochester, N. Y., Oct. 25, 1910, aged 38.
Elbert G. Van Orsdell ('02), Brooklyn, N. Y., March 25, 1911, aged 40.
Donald Boyd ('03), Valatie, N. Y., Jan. 23, 1911.
R. Burdette Hoyt ('03), Schenectady, N. Y., Jan. 11, 1911, aged 30.

CLASS OF 1841

The members of the class of 1841 were:
David Atwater.
John H. Beech, died October 17, 1878.
William H. Biggam, Fort Plain, N. Y., died December 11, 1889.
Alfred P. Blakleslee.
Israel I. Buckbee.
James B. Cook, Afton, N. Y., died Jan. 26, 1888.
Willard G. Davis, Dunnsville, N. Y., died May 16, 1899.
Morgan L. Finch, died March 6, 1871.
Sebastian F. Fonda, Sharon Springs, N. Y., died Jan. 27, 1892.
Levi C. Frisby, California, died Sept. 24, 1892.
Charles Goodale, died 1876.
David D. Hamlin.
Odenanthus Hill.
David W. Hiscox, Pittstown, N. Y., August, 1885.
Alson D. Hull, Alanson, California, died Feb. 3, 1880.
George F. Huntington.

Erasmus D. Jones, Albany, N. Y., died August 17, 1895.
Marvin M. Marsh.
Daniel McNeil.
Charles Miller.
Samuel Moore.
Moreau Moyse.
Bryan F. Ransom.
B. Franklin Sherman, Ogdensburgh, N. Y., died May 30, 1897.
Richard F. Stevens, Lysander, N. Y., died 1878.
Isaac L. Toby.
Magloise Turcot.
Philip M. Wheton.
David C. Woodman.
William S. Young, died Nov. 12, 1880.
As far as known there is no living member.

CLASS OF 1851.

The class of 1851 had twenty-three members all of whom have either died or passed out of history.

Ephraim R. Aiken.
Renaldo M. Bingham.
William T. Burton.
Francis L. Chapin, Glens Falls, N. Y., died April 10, 1889.
Simeon Crounse.
Theodore Davenport.
Charles W. Gebhard.
August H. Gidney.
Louis C. Greene, Amenia Union, N. Y.
Henry T. Hawley, Freelands, Mich., died 1887.
Hon. William H. Hawley, Syracuse, N. Y., died May 18, 1891.
Samuel L. Hooker.
Joseph Keeney.
Levi Moore.
Marvin R. Peck, Glens Falls, N. Y., died April 4, 1884.
Gustavus W. Pope, Washington, D. C., died July 21, 1902.
John H. Reynolds.
Rufus J. Rowe.
Peter E. Sickler.
Edward Sill, Watertown, N. Y., died Sept., 1892.
Perrin A. Skiff, Frankfort, N. Y., died March 13, 1895.
Solomon G. Stanley.
Staats Winnie, died May 20, 1880.

CLASS OF 1861.

Thomas Beckett, died.
N. G. Brooks.
Abram G. Brower.

Asahel Burt, Jr., Wakefield, Kan.
Charles A. Catlin, Redwood, N. Y.
William L. Cooper, died Troy, N. Y., May 26, 1890.
Myron J. Davis.
John S. Delevan, died August 7, 1885.
J. M. Doty died U. S. service, 1865.
Henry Duane.
Charles B. Fry, Ocean Springs, Jackson, Miss.
Horace T. Hanks, died Nov. 18, 1900, at New York City.
Henry R. Haskins, died March 31, 1883.
Jeremiah D. Havens, died Feb. 12, 1875.
William L. Hollister, Austin, Minn.
Willard O. Hurd, died Jan. 11, 1900, at Soldier's Home, Tilton, N. H.
Charles H. Porter, died Nov. 21, 1903, Albany, N. Y.
Porter L. Reynolds, died April 21, 1887.
Milton A. Sanford.
W. Henry Stuart, Norwich, N. Y., died April 12, 1900.
N. P. Tuttle.

The following letters were received at their class reunion in 1901:

Dr. Charles B. Fry, of Mattoon, Ill., writes: "My life has been too uneventful to make it of any interest to a stranger. I was commissioned assistant surgeon 21st New York Infantry, August 12, 1862, and served with that regiment as acting surgeon until mustered out of the service sometime in June, 1863. I am unable to give these dates accurately. I was then commissioned assistant surgeon 122nd New York Infantry, July 30, 1863, but owing to the fact that the regiment had only a minimum number of men in the field, I could not be mustered in at that time and accepted an appointment from the surgeon general, U. S. A., as acting assistant surgeon, and was detailed for duty at Balfour General Hospital, Portsmouth, Va., then under the charge of Surgeon Edward B. Dalton. I remained in the service until February 24, 1864, when I was detailed as surgeon in charge of the United States flag of truce Steamer New York, engaged in the exchange of prisoners. I remained in that service until I resigned my commission in July, 1865. I was commissioned first assistant surgeon First New York Engineers, November 22, 1864, and mustered into the service with that rank. I was in business for four years in Williamsburg, Va., from 1865-1869 and for a brief time in St. Louis, in 1870 and 1871. I then came to Mattoon and have been in continuous practice of my profession here ever since. I am now division surgeon of the C. C. C. and St. Louis and district surgeon of Illinois Central Railway, assistant surgeon general of the Illinois National Guard and mayor of the city."

Dr. W. L. Hollister, of Austin, Minn., writes: "I feel it is a long time since I graduated from the Albany Medical College in the class of 1861. In 1862 I settled on the banks of the Hudson at Stuyvesant, Columbia county; the next year I went to Kingston and assisted in the examinations of substitutes drafted and listed for the army, and spent my time there until the spring of 1867, when I left for Austin,

Minn., and have resided here ever since, practicing my profession most of the time. I am now 64 years old and think I am as robust and hearty as most of the men of my age. I am not doing much or working very hard, but am trying to enjoy the rest of my time as best I can. I often think of my college days and think I will visit the old college some time during the meeting of the Association. How it will be, time will only decide. But remember me to the members of the Association. I always think of them at their gatherings and wish I were there. Give them my warmest wishes for the future and may Heaven bless you all is my prayer."

Dr. C. A. CATLIN, of Redwood, N. Y., writes: "Immediately after I graduated in 1861, I returned to Redwood and commenced the practice of medicine and found it rather up course, and getting the war fever pretty strong, applied for commission in 2nd New York Cavalry, went down to the front, the regiment doing duty on the dismal swamp canal in North Carolina. I did not accept the position, resigned and came home and practiced when I could get it. The war fever had not subsided and I applied again for another position and by return mail got an appointment in First New York Cavalry with Sheridan in Shenandoah; remained in service until discharged by order of war department after the surrender of Lee at Appomatox Court House. I returned home, resumed practice again and soon after bought half interest in drug store and let my partner look after the store and I attended to my practice. I was soon appointed postmaster and held the position for twenty years, until Cleveland was elected for the first time, then I stepped down and out and continued my old business for four years and then got an appointment as examining surgeon for pensions for Jefferson County; held that position for four years, then had to step down and out again. Since that time I have practiced some, but looked after the store mostly, for I had to discontinue night practice on account of poor health, and am still at the old stand doing what I am able. Soon after I returned from military service I married Martha J. Wicks, of Antwerp, Jefferson county, N. Y., and have been blessed with four children, three girls and one son. My married life has been very pleasant, I have been fairly prosperous in business and with due economy will be able to keep the wolf from the door.

"Have an interest and has ever aided, and advanced all enterprise for the betterment of town and its people. 1911 finds me 75 years past still on the highway of life but with face turned toward the setting sun."

HISTORY OF THE CLASS OF 1871.

Dr. STEPHEN A. INGRAHAM, Little Falls, N. Y.:

"Since leaving Albany I have been here at Little Falls, N. Y., engaged in the practice of medicine and never regretted that I entered the medical profession."

Dr. GEO. CONKLING, writes from Durham, N. Y.:

"After graduating I went to Northville, N. Y., and on January 1, 1873. I removed to Durham, Green county, where I am still located

and I have no kick to make in any respect. My wife and myself are both enjoying good health. We were never blessed with any children so have had none to lose. I have quite a large territory to cover and the roads are hilly. I keep five good horses and have plenty for them to do. I have had the auto craze several times but it has never materialized as our roads are too rough and hilly to make it feasible. I am tough and rugged and think I can stand as much hard work as I ever could. This is a boarding section and in the summer these mountains are full of boarders which add quite a little to my income. I manage to get enough to eat and drink, pay one hundred cents on the dollar and take a vacation when we feel like it. Would be glad to see any of my old classmates at any time and would try and give them a good time."

Dr. Jacob F. Force, writes from Pasadena, Cal.:

"After graduating in 1871, I began my practice in Stillwater, N. Y. The following year I took Mr. Greeley's advice to go west and grow up with the country, and went to Minnesota, where I lived until 1904, then moved to California. Since 1905 I have been in Pasadena, Cal. About 1888 I ceased the practice of medicine and engaged in other pursuits, and am not connected with any medical organization though I retain sufficient interest to read various medical journals and greatly enjoy the society of medical men. I retain pleasant recollections of the time spent at the Albany Medical College and of those whom I met there, many of whom have passed away. I trust the coming commencement exercises will be of unusual interest, and would be glad to be there if it were possible."

Dr. J. C. Strader, LaFayette, Sussex County, N. J.:

"After my first course of lectures at Albany I took a 'course of lectures' at the 'College of Physician and Surgeons,' New York City, and that was to me one of the best things I could have done in those days. It posted me right up, and when I came back to Albany again all of the Faculty asked me how I had advanced so rapidly for one so young. I told them and they gave me 'credit' for my extra work. My second course at Albany was an easy one, although I worked very hard. The final examination was to me almost nothing. I answered every question. If you remember forty came up for final examination; thirty-three 'passed' and seven 'got left.' Did you ever know what became of any of the seven? I am so far away from Albany I never have heard one word from them. I saw all of them on Saturday and they just felt 'sea sick.' Next day was Sunday, next day was Monday, Christmas, next day Tuesday, December 26, 1871, and I left Albany at four o'clock A. M. on the first train. I never returned. I have never seen a single member of 'our class' since 'Commencement Night.' As near as I can learn there are only four living—Ullman, Alexander, Ingraham and Strader. If you know of any more please let me know. I have never done anything but professional work. Day, night and Sunday. I began at once at Phillipsburgh, N. J., forty-four miles south of LaFayette, N. J. Left there in 1896 and been here ever since. Married October 22, 1873.

No 'babies' yet. When we moved here we lived in another house five years, then I purchased this one where we now live and have lived in it thirty years on the fifteenth day of this month. My health is not very good—worked and worried too much. The '*Wear* and *Tear* and *Tears* of Life' have been beyond the '*limit of human endurance.*' We are neither rich or poor, just a 'happy medium.' How long I will live and be able to 'kill or cure' my neighbor I know not."

Dr. G. L. Ullman, Albany, N. Y.:

"Just think, the class of 1871 are now young fellows of sixty years and over; we can scarcely realize it. I have registered at every meeting except one since our organization, always enjoyed good health, been active and kept busy with general practice, and served the intervening ten years as county physician. All things considered I have no reason for complaint. In my 1901 report a brief synopsis was given, mentioning a vision of the half million dollar mark, this has not been realized as yet, but, hope to make a better report in 1921. However, 'contentment is the truest of riches.'"

Dr. H. L. Cookingham, Red Hook, N. Y.:

"After graduation I located at Staatsburgh, N. Y., where I remained for one and a half years. I settled here in August, 1873. In 1876 married Mary J. Wicks. We have been blessed with four children, all of whom have left the parental roof. I have been honored by many offices—postmaster, five years; coroner, six years; president of our village, four years; president of Dutchess County Medical Society, two years. My church has greatly honored me by electing me three times to its general conference at Chicago, Los Angeles and Baltimore. I have been blessed with good health and have done more work in the last year than ever in my life. My oldest son, after graduating at Syracuse University, was appointed vice consul to Spain, a position he is now enjoying. My youngest son is at Bellevue in his third year."

Dr. John Van R. Hoff, Governor's Island, N. Y.:

"Army officer; born Mount Morris, N. Y., April 11, 1848; son of Alexander H. and Ann Eliza (Van Rensselaer) Hoff; graduated Union University, A. M., M. D., 1871; Columbia University, M. D., 1874; matriculant University of Vienna, Austria, 1886; LL. D., Bucknell, 1907; married June 22, 1875, Lavinia Day. Appointed first lieutenant, assistant surgeon, U. S. A., November 10, 1874; captain, 1879; major surgeon, June 15, 1891; lieutenant-colonel, deputy surgeon general, January 1, 1901; colonel, assistant surgeon general, January 19, 1905; organized first detachment of hospital corps and co-bearers at Fort Reno, I. T., 1887, and first company of instruction, hospital corps, at Fort Riley, Kan., 1891; chief surgeon first autumn maneuvers held in Oklahoma Territory, 1888, and those at Chilocco, Olkahoma Territory, 1889, and at Fort Riley in 1903-06; recommended for brevet and medal of honor in Sioux campaign of 1890-91; chief surgeon third corps, Spanish-American war, 1898; chief surgeon, Porto Rico, 1898-1900; organizer and president board of health and board of charities, Porto Rico; in charge of hurri-

cane relief work following disaster of August, 1899; chief surgeon in China relief expedition, 1900; military attache with Russian armies in Manchuria, 1905; chief surgeon, Department of the Missouri, 1906; chief surgeon in Philippines, 1907; chief surgeon, Department of the Lakes, 1909, and Department of the East, 1910-11. Instructor in ophthalmology, etc., University of California, 1885; professor Army Medical School, 1901-02; instructor in military hygiene, General Service and Staff College, 1903-05; professor military sanitation, University of Nebraska, 1906. Author: The Most Practicable Organization for the Medical Department, U. S. A., in Actual Service; Outline of the Military-Sanitary Organization of Some of the Great Armies of the World; Military-Sanitary Organizations on the Lines of Communication and at the Base; A Scheme of Military-Sanitary Organization; Some Suggestions for the Organization and Interior Economy of a State Medical Military Sub-Depot in War Time, etc. President of the Association Military Surgeons, U. S., 1901-02; member New York Academy Medicine, Society War 1812, Military Order Loyal Legion, Society of the Dragon, Sons of the Revolution, Society of Colonial Wars, etc.; recipient of Order of St. Anne, Russia. Club: Metropolitan (Washington). Address: Care War Department, Washington, D. C."

Dr. C. J. Fisk, Troy, N. Y.:

"I have been in practice in Troy since May 10, 1872, five months after our class exercises. I would like very much to meet the boys of '71, and would if I could handle myself as when I left the school. My incapacity has been on for several years, a myelitis which followed my attention on a very severe case of confinement."

Charles A. Ingraham
Historian, Class '71.

HISTORY OF THE CLASS OF 1881.

Three decades have passed since the class of 1881, fifty-eight in number, left these old walls with their much-coveted sheepskins, to take up their life's work.

The members of the faculty who were with us during our college course and who are still engaged in their estimable work are Doctors Ward, now dean, Albert Vander Veer, Curtis, Boyd, Merrill and Tucker. May God spare their lives for many years to come.

I have written a letter to every member of the class of '81 whose address was known, thirty-four in all, and have received twenty-five replies. Our class seems to have attained its measure of success and prosperity, and it was with great pleasure and interest that the historian received friendly greetings from classmates from whom we have been separated for so many years. Our class is scattered over these United States, our own State, of course, claiming most of them, while several may be found as far away as Washington and California, and one is doing most worthy work as a medical missionary in Tripoli, Syria.

I submit the following information relative to members of our class:

Dr. Alva E. Abrams, 36 Pearl Street, Hartford, Conn. After graduation, practiced in Duanesburgh, N. Y., for two years, at the end of that time settling in Hartford, Conn., where he is still located. Served one year as president of the Hartford Medical Society, and is now one of the three trustees of that organization. In 1897 went as delegate to the International Medical Congress at Moscow. Is married and has three daughters, all of whom are married.

Dr. W. L. Allen, Boise, Idaho:

"In April, 1881, I sailed with Dr. Ira Harris, now of Syria, for England, serving in Westminster and Mile End Hospitals where I had the pleasure of enjoying a week with Dr. C. M. Culver of class 1881, who was on his way to Germany. I returned to America and married the only girl that would have me, my cousin, A. J. Dewey. I continued with my father for a short time, then left for Cleveland, Ohio, where I remained a year with no success, there Dr. Charles S. Allen, class of 1907, was born. I returned to my own town, Rensselaer, N. Y., and engaged in business again with my father. I continued with him for a number of years, then when my family increased I tried the killing act alone. During this time I have served as coroner's physician and health officer for two terms and was railroad surgeon for H. R. R. and A. & H. Became a member of American Microscopical Society, County Societies of Troy and Vicinity and honorary to Albany County Medical Society. After my term of service as health officer expired I took my wife on a six weeks' trip to Los Angeles and up the coast to Seattle, back by Denver then to Albany, N. Y., escaping the earthquake of San Francisco by about one week. I took a post graduate course in microscopy and bacteriology in New York City. I went to Denver for a trip three and a half years ago and at the request of a friend came to Boise, Idaho, to settle a business question for him. The Idaho State Board of Medical Examiners were about in session. I waited and tried their examination so as to procure if possible a certificate to adorn the walls of my office to keep company with those from Albany Medical College, London and Colorado. Some how after about a week of severe perspiration, of extreme anxiety, I learned that I had successfully passed. I presume you will not attribute this unusual success to either my good looks or ability but to the great Providential care that has followed me through my many varied wanderings of my thirty years' professional life. I have now a business of about the same as I left. Since January, 1911, my eldest son, Dr. C. S. Allen, Jr., is associated with me and we are doing general medicine and surgery. Should it be the will of the Great Eternal Father I propose to establish my two sons here and then retire as soon as possible. I cannot say that I am any credit to my class of 1881. I certainly am not financially. I have not become great. My name will go down in obscurity but as I look back over the past I can truly say have been living up to my very best and have done much to keep abreast with the times and have before me the expected plaudit, "Well done, thou faithful if not successful servant."

Dr. Frank Beebe, Johnstown, N. Y. Has been located at Johnstown since graduation and has an extensive practice.

Dr. Louis E. Blair, 204 State Street, Albany, N. Y. His report is as follows: "I have practiced in Albany since graduation, remaining with Dr. John Swinburne until the spring of 1884, when I went to Europe for post-graduate work in nose, throat and ear, and returned in spring of 1885. I married Miss Lillie Mann, daughter of Joseph Mann, in 1886, and we have one child, Florence E. Blair, who is in the graduating class of the Albany Academy for Girls. We celebrated our silver wedding anniversary this spring. My office and residence is at 204 State Street."

Dr. George A. R. Blake, Herring, Jefferson County, N. Y. He first located in Watertown, N. Y., remaining there fifteen years, afterward removing to Herring, where he is now located. In 1886 served one term as county physician of Jefferson County. Is married and has one son.

Dr. Elvin D. Bradley is located at Hennessey, Oklahoma, where he is enjoying a good practice.

Dr. Clarence A. Chaloner located at Stephentown, N. Y., after graduation, and has practiced there continuously ever since. He is health officer, surgeon for the Rutland Railroad, and examiner for several insurance companies. Is married and has three children.

Dr. Warren C. Cooper died at Troy, N. Y., March 17, 1911, age fifty-three.

Dr. Edward L. Crandall, Troy, N. Y. No reply.

Dr. Charles M. Culver, 36 Eagle Street, Albany. Dr. Culver has an extensive practice, specializing in eye and ear.

Dr. Charles C. Duryee practiced at Englishtown, N. J., for a few months after graduation, going thence to Schenectady where he now resides. He is one of the attending physicians of the free dispensary, and consulting physician and surgeon at the Ellis Hospital, and lecturer to the Training School. He confines his practice to diseases of the chest and kidneys. He has served as health officer and is the present mayor of Schenectady.

Dr. Nelson Everest, Gloversville, N. Y. In 1881 commenced the practice of his profession at Rockwood, N. Y., where he remained for sixteen years. He then moved to Gloversville where he is still engaged in active practice.

Dr. Frank B. Foote, Parish, Oswego County, N. Y. After graduating in 1881, began practice in Altmar, Oswego County, N. Y., and remained there three years. Then took charge of Mexico, N. Y. Asylum for a few months and then went into general practice at Baldwinsville, N. Y., remaining there three years, marrying his wife there. He then removed to Parish where he is still located, enjoying a large and extensive practice in that place and throughout the adjoining towns and nearby villages. Acted for nine years as examining surgeon for the United States. Has served two years as district deputy grand master of F. & A. M. for his Masonic district.

Dr. Leonard A. Frazier located at Amsterdam, N. Y. He writes a very interesting letter and refers affectionately to the professors of thirty

years ago who are still with us and "whose hoary heads are a crown of glory to the profession." Dr. Frazier has practiced in Amsterdam for the past thirty years.

Dr. John Hammond died at Schuylerville, N. Y., February 4, 1905.

Dr. Ira Harris, Tripoli, Syria:

"Most of the year following my graduation I spent in Europe, to use a favorite English expression, 'walking the hospitals' and getting what good there was out of such an occupation. During that time I for six weeks took charge of a doctor's practice in one of the midland districts of England, and it was a strenuous six week. I saw enough to see that there could be no better reward for a man's work, or more satisfaction for one's efforts than in England. The doctor gets very near the heart of things, and there is no fear of another taking his place just as long as he can work, there is no running after the new fads that takes the life out of the profession these days. On my return to America I settled at Fayetteville, N. Y., remained there until August, 1883. On the third of November of that year I sailed for Tripoli, Syria, to join the Presbyterian Board of Foreign Missions to take charge of their medical work. During the spring of 1896 I had charge for three months of the work of the American Red Cross in Asia Minor among the Armenian sufferers from the fiendish efforts of the Moslim population to exterminate every Christian male above the age of twelve years, and from what we saw they accomplished very effectively their endeavors, for we saw and gave aid to thousands of women, girls and children, but very few men, that had survived the effects of the club, knife and the gun. After the massacre three years ago at Adana I went to give what assistance I could, but as the work had been organized before I arrived, there was no need of more help. For the past twelve years I have been American consular agent at this port, at the present time I have charge of the consulates of United States, England, Germany, and Holland, so every Sunday I have the right to hang the official flag of these countries from the roof of our house, and it is a great comfort to know we are not outside the world even if we are a long way from home. I have two children. My daughter has the command of four languages—English, French, German and Arabic. She graduated in 1908 at the Woman's Medical College, Philadelphia, and after a year in the Woman's College Hospital in that city she was appointed by the Presbyterian Board of Foreign Missions to be my assistant in my hospital work here. My son, now sixteen years of age, is training his mind for some useful walk in life. When I look over the numbers that have received treatment in our clinics during the past twenty-seven years I am astonished at the numbers, and wonder how one man could do so much, and I do not say this with any thought of boasting. There has been an average of 7,351 new cases, 502 operations, and 14,902 treatments annually. We have a hospital with forty beds, a trained American nurse, two American doctors, and native assistance. We do *any* and *all* kinds of surgical cases, that of disease of the eye comprises about one-third of the cases, cataract and diseases of the lids, surgical and otherwise—about half of these.

Operations on the neck we have had 3,481 cases, many large goitres and glands; 356 bladder calculi, ninety-six per cent on children from eleven months to fifteen years of age. The largest stone removed from an adult weighed 2,889 grains, the smallest from a child age eleven months, thirty-five grains. Have had several cases from two to eleven months of age who have passed small stones, or have removed them from the urether, one case of a stone lodged near the opening that caused gangrene of the penis. Stone cases in women, three; girls five. Of course you need not copy all the above in your report, use what you need, and confine to the balance any way you wish. Tell the boys I congratulate all who are left of the fifty-eight that graduated in our class of '81, and tell them life is a grand thing, but what is better in this world than that life has been honest, true, ever ready to lend a helping hand to the poor, the sick and sad, if one can look back over the thirty years and say I have ever done my duty, I have done all I could to make every one with whom I have had to do, happy even in sickness and death, that is better than wealth, or anything the world can give. Tell them I expect D. V. to meet them in 1912 or 1913. If I have been gathered to my fathers, I will meet them in the great region beyond the veil where so many of the class of 1881 have gone. What a meeting that will be! I have no dread as to the future, when the great change comes I am ready, I know I have done all I could to make the world better, it has been little, but that little I have given with my whole heart, so with salaams to you all, am as ever

"Cordially yours,

"Dr. Ira Harris."

Dr. Thomas Hays. Last known address Holland Patent, Oneida County, N. Y. No reply.

Dr. Nelson W. Kelso. Address unknown.

Dr. Lawrence E. Kenny, 40 Ferry Street, Troy, N. Y. He writes: "Starting in with a short visit to the western coast of Africa, upon my return I located for a time in different places in New Hampshire. Came back to New York State and spent two years in New York City, finally coming back to Troy, N. Y., where I am now and have been for many years. If up to this time I have 'made good' and I think I have, it is largely owing to the fact of my having very happily married in the early part of my professional career."

Dr. George A. Krug, 817 Bleecker Street, Utica, N. Y. No reply.

Dr. Edward L. Lawrence died at Ballston Spa, N. Y., September 11, 1908.

Dr. John F. Lockwood, Kansas City, Mo. No reply.

Dr. William P. Mason, Troy, N. Y. Dr. Mason has never been engaged in the practice of medicine, having been connected with the faculty of the Rensselaer Polytechnic Institute as professor of chemistry ever since graduation. His specialty for many years has been the examination of water for municipalities and giving advice as to improvement of public supplies. He is the author of two books "Water Supply"

and "Examination of Water." He is a member of many learned societies and associations.

Dr. Menzo B. Mattice is located at Sedro-Woolley, Washington. He left Albany in May, 1881, and in June of that year settled in Brookings, S. D., where he remained ten years. In 1891 he went to Sedro-Woolley, Skagit County, Washington, where he still is. He writes that he is prosperous and that he enjoys a large practice. He is married and has five children, three sons and two daughters. His oldest son received a degree from Johns Hopkins last year; another son is studying dentistry. Dr. Mattice is surgeon for the Northern Pacific and Great Northern Railroads and health officer of Skagit County and of the city of Sedro-Woolley.

Dr. Howard Miller is in New York City. No reply.

Dr. William T. Miller, 778 State Street, Schenectady, N. Y., began practice in Cobleskill N. Y., remaining there thirteen years, after which he practiced two years in Amsterdam. Then spent one year in Berlin, Germany, and on his return, settled in Sandwich, Ill., where he remained seven years. He then took a post graduate course in Chicago Eye, Ear, Nose and Throat Hospital, also in Post Graduate Hospital and School, New York City. Dr. Miller is now located in Schenectady, and devotes his time to diseases of eye, ear, nose and throat. He is married and has four children.

Dr. James H. Mitchell, corner Schuyler and Remsen Streets, Cohoes, N. Y., writes: "Thirty years ago, after receiving my diploma, I came to the Spindle City where I have remained since, trying faithfully to uphold the profession I then adopted. How well I succeeded I leave for others to tell. Suffice it for me to say that I am still doing business at the same old stand and enjoying life to its fullest extent and cannot fully realize that this will be our third decade reunion." Dr. Mitchell modestly refrains from telling us that he is connected with the Cohoes Hospital as surgeon, and has twice served as mayor of Cohoes, but the historian considers this bit of additional information relevant and has inserted it here. Dr. Mitchell is married and has two sons, one a practicing lawyer in Buffalo, the other an undergraduate at the Albany Medical College.

Dr. John W. Morris. Last address 1823 Fifth Avenue, Troy, N. Y. No reply.

Dr. William J. Murphy. Last known address, Burson, Calaveras County, California. Letter returned, marked "Removed."

Dr. Daniel D. Murray, Duluth, Minnesota. He writes as follows: "For two years after leaving college I practiced in my native town of Rouse's Point, N. Y. Then the western fever got me and I landed in Mayville, N. D., where I stayed seven years, but born and brought up where water is, I yearned to get back to it and came to Duluth, on the shore of Lake Superior. My professional career here has been successful. I was health commissioner for five terms, two years each. I am local surgeon for the Soo Road and Duluth Street Railway Company, numerous appointments as insurance examiner, etc. My practice has been successful from a financial viewpoint; have a wife, three children and three

grandchildren, which latter to the boys of the class of '81 will sound strange. My daily routine is now confined to a distinctive and remunerative office and hospital practice. There is nothing to add. However, to those of the class of '81 who may chance Duluthward the latchstring is always out and there are none of the old class who cannot find Dan Murray by day or night. My best wishes to all for a happy reunion and my regret grows as I proceed with this letter that I cannot be with you. However, it is not given to most men to do as they please and when."

Dr. H. S. Paine, Glens Falls, N. Y.:

"After graduating at the Albany Medical College I attended the surgical clinics of Dr. Vander Veer and was an assistant of Dr. Swinburne at his clinics. I also attended the eye clinics held by Dr. Merrill. In June, 1881, I passed the first Board of Regents receiving the Gray prize of $50 for being able to pass at all I suppose. From 1883 to 1887 was visiting physician to the Albany Babies Nursery in connection with Drs. Morrow and Trego. For ten years was medical and surgical assistant to my father at the Albany House of Shelter, and from 1883 to 1886 one of the attending physicians at the Albany Open Door Mission and Home for Incurables. In 1881 was appointed a member of the surgical staff of the Albany Homeopathic Hospital, serving first as an assistant and subsequently for three years had full charge of the surgical department; Drs. Swinburne and Balch having been appointed consulting surgeons. In 1882 and 1883 (two years) was prosector to Dr. Lewis Balch, the professor of anatomy in the Albany Medical College. Became a member of the Albany County Medical Society in 1881, a member of the Homeopathic Medical Society of Northern New York in 1882, and a member of the Albany County Homeopathic Medical Society in 1890. In 1895 became a charter member of the Hudson Valley Practitioner's Association which at that time was known as the Glens Falls Medical and Surgical Society. For a number of years was engaged in general surgical work, but of late years have specialized on diseases of the eye, and every year operate on several cataract cases (nine since last January). Am at present eye surgeon to the Glens Falls Hospital. Have written a few medical papers on various topics and lectured on the care of the eyes and their treatment before various societies in Glens Falls since I moved here in 1894. Since 1882 until the present time I have taken parties through Europe for some three months during the summer as a vacation. While in Europe, several weeks were frequently spent nearly every year for several years attending eye clinics. While I visited various hospitals in many cities, most of my time was spent in Paris and London as my tours ended in or near these cities and it was more convenient than Vienna. Most of my time was spent at the Royal Opthalmic Hospital, Morefields, London, the largest eye infirmary in the world. While in Luxor on various trips up the Nile, favorable and instructive opportunities were afforded for observing the Egyptian ophthalmia, also much in evidence in Palestine and Turkey. My repeated trips abroad have necessitated my reading and speaking several languages but I am

not a linguist and never expect to be. A rabbit climbed a tree once on a time to get away from a hound that was chasing it; he climbed the tree not because he wanted to, but because he *had* to. That rabbit represents my linguistic acquirements. On account of serious meningeal irritation I came to Glens Falls in 1893 to get rid of the jar of riding over the Albany pavements and have been here ever since. Was married to Miss Sarah M. Potter in 1890. We have had one little girl that died young. While I have never enjoyed vigorous health, like a squeaky and rickety old wagon I have kept going, without much speed or fuss, and have accumulated sufficient of this world's goods to retire pretty soon and live a bald-headed out of door life at my summer home on Lake George, catch bullheads and grow moss on my back and hay in my whiskers like any other Rube. Have done nothing worth recording but like an old hen, have been eternally and infernally busy scratching at whatever came within my range of vision. I expect now to be in Europe this coming July and August and perhaps start on a trip around the world in September. Though I hold the position of eye surgeon to our hospital here, and belong to the local Medical Society and County Society. I have never cared for clubs, politics or society, but just kept plodding from one day to another and so the years have slipped by. One of my best operations was performed soon after graduation, on a woman who twelve years before had a prolonged confinement that caused sloughing of most of the bladder and all the urethea. I made a new urethea in the tissues with a curved trocar and kept a rubber catheter in place till healed, and after one and a half years' time and nine or ten plastic operations and failures, finally succeeded in forming a bladder that would retain urine for several hours at a time, and made the life of one woman a comfort, instead of a nuisance. Dr. T. Addis Emmet of New York congratulated me on succeeding, as only fourteen other such cases were at that time known in surgery. Had I known this before I began I should probably never have attempted it. Meningeal irritation prevented my pushing surgery which I liked, and in which I was successful, and I have had to content myself with a very busy and uneventful career as a specialist, 'way over the hills and a great way off.'"

Dr. Lauren F. Rose. Address unknown.

Dr. E. E. Rulison has been in Amsterdam, N. Y., since April, 1881, and enjoys an extensive practice in that city. His office is at 18 Storrie Street.

Dr. Warren C. Spalding, Hotel Winthrop, 125th Street and 7th Avenue, New York City. He writes in part as follows: "I am practicing in New York City where I have been located for the past eighteen years and have found it very pleasant. Prior to that I was in Omaha, Nebraska and Chicago, Illinois. I have held hospital positions in these various cities and belong to the usual number of medical societies. I recall with great pleasure my college days at Albany, and remember the loyal good-hearted boys of our class, many of whom have succeeded splendidly and as I remember them, all were worthy of success."

Dr. George F. A. Spencer, 40 Church Street, Ware, Mass. Located in Barre, Mass., in 1881. There married Julia M. Smith in 1884. En-

joyed a good country practice and held several offices in town and was State medical examiner. Removed to Ware in 1890 where he still resides. Has served on the Board of Health, is medical examiner for several insurance companies, member of State, County and National Medical Societies, is a Mason, an Odd Fellow and a member of the Congregational Church.

Dr. Edward J. Stephens, 230 Genesee Street, Utica, N. Y. Has been located in Utica for thirty years, and has had his share of prosperity. For nearly fourteen years was medical director of the Masonic Home, and for three years served as health commissioner of Utica. Has a large general practice.

Dr. William B. Webster is located at Schuylerville, N. Y., where he has practiced since graduation. Is married and has two daughters. He is health officer, has been coroner two terms, president of the village two terms, trustee of the Methodist Church, belongs to the Masonic Order, is a Knight Templar and a Shriner. In politics he is a Republican.

As your historian I will close this report with my own modest history. After graduation I located in Albany, N. Y., where I was born and became a general practitioner, with all the hard work that a practice of that kind entails. After thirty years I am still in the harness with no prospect of retiring as yet as my dividends are not sufficient to maintain me in idleness or luxury or permit me to endow any hospital or college. In November, 1881, I married Ella Jean McCracken of Albany, N. Y., and have one son surviving who is a practicing attorney and is busily engaged at times in trying to collect his father's outstanding accounts. In 1883, 1884 and 1885 was one of the coroner's physicians of Albany County. Am a member of the Masonic fraternity, being a thirty-second degree Mason. In politics a Democrat, in religion a Presbyterian.

The class of '81 extends to the class of 1911 best wishes for a long life, prosperity and success in their chosen profession.

Respectfully submitted,

Frederick L. Classen,
Historian, Class of '81.

HISTORY OF THE CLASS OF 1891.

Letters have been received from the following members of the class, and attached hereto make part of the report:

John M. Bowman, Wallkill, Ulster County, N. Y.
Merton W. Brown, Cedarville, Herkimer County, N. Y.
Walter H. Conley, New York City.
Frank E. Dean, Shaftsbury, Vt.
Joseph W. Droogan, Westchester, N. Y.
Charles E. Davis, Albany, N. Y.
Nathan D. Garnsey, Kinderhook, N. Y.
Edward L. Johnson, Maine, N. Y.
Henry W. Johnson, Hudson, N. Y.
Edward Joslin, Whitehall, N. Y.
John W. Joslin, Johnstown, N. Y.
Louis Le Brun, Albany, N. Y.

Sherwood Le Fevre, Glens Falls, N. Y.
Michael F. Phelan, Troy, N. Y.
Frank K. Roark, Troy, N. Y.
William O. Scott, Parish, N. Y.
Harmon A. Staley, Schenectady, N. Y.
Evart E. Tracy, Prairie View, Ill.
Harvey W. Van Allen, Springfield, Mass.
Arthur B. Van Loon, Albany, N. Y.
George J. Van Vechten, Oneonta, N. Y.
James W. Wiltse, Albany, N. Y.
George H. Reynolds, Niwot, Colo.

The list of the membership of the class contained thirty-one names; of these twenty-two have been heard from. Three members of the class have died since the last report was made: Joseph Freedman, New York City; Sherman S. Kathan, Ballston Spa, N. Y., and George Austin Williams, Chicago, Ill. The following sent no letter, but some of them are known to be well and prosperous, and actively engaged in their profession:

John H. Cobb, Binghamton, N. Y.
William J. Fleming, Troy, N. Y.
Lewis R. Oatman, Greenwich, N. Y.
Ward B. Saltsman, Buffalo, N. Y.
Robert B. Lamb, Fishkill-on-Hudson, N. Y.

Doctor Lamb has made a splendid reputation as superintendent of the Hospital for the Insane at Matteawan.

The letters received would indicate that the class as a whole has been unusually successful, are enjoying prosperity and lucrative practice, and have made splendid reputations in the localities in which they are located. Many of the members of the class have indicated their intention to be present at the reunion, and it is safe to say at least fifteen will meet with us.

A corrected list of the members of the class and their addresses follow:

Dr. John M. Bowman, Wallkill, Ulster County, N. Y.
Dr. Merton W. Brown, Cedarville, Herkimer County, N. Y.
Dr. John H. Cobb, Binghamton, N. Y.
Dr. Walter H. Conley, 272 W. 126th St., New York City.
Dr. Charles E. Davis, 75 Elk St., Albany, N. Y.
Dr. Frank E. Dean, Shaftsbury, Vt.
Dr. Joseph W. Droogan, Westchester, Westchester County, N. Y.
Dr. William J. Fleming, 169 Third St., Troy, N. Y.
Dr. Nathan D. Garnsey, Kinderhook, N. Y.
Dr. Edward L. Johnson, Maine, Broome County, N. Y.
Dr. Henry W. Johnson, Hudson, N. Y.
Dr. Edward Joslin, Whitehall, N. Y.
Dr. John W. Joslin, Johnstown, N. Y.
Dr. Robert B. Lamb, Fishkill-on-Hudson, N. Y.
Dr. Louis Le Brun, 238 Lark St., Albany, N. Y.
Dr. Sherwood Le Fevre, Glens Falls, N. Y.
Dr. Lewis R. Oatman, Greenwich, N. Y.

Dr. Michael F. Phelan, 131 Third St., Troy, N. Y.
Dr. George H. Reynolds, Niwot, Colo.
Dr. Frank R. Roark, 104 Second St., Troy, N. Y.
Dr. Ward B. Saltsman, 332 Purdy St., Buffalo, N. Y.
Dr. William O. Scott, Parish, Oswego County, N. Y.
Dr. Harmon A. Staley, 797 State St., Schenectady, N. Y.
Dr. Evert E. Tracy, Prairie View, Lake County, Ill.
Dr. Harvey W. Van Allen, Springfield, Mass.
Dr. Arthur B. Van Loon, 198 State St., Albany, N. Y.
Dr. George J. Van Vechten, Oneonta, N. Y.
Dr. James W. Wiltse, 6 South Hawk St., Albany, N. Y.

Dr. Merton W. Brown, Cedarville, N. Y.:

"I have practiced medicine here continuously since graduation and have had a large country practice. My father, who died in 1895, also practiced here twenty-six years. I was married in the fall of 1896 and have four children, the oldest, a boy, being thirteen. I have the contract for doctoring the town poor in the towns of Columbia and Litchfield and am also health officer of both towns."

Dr. J. M. Bowman, Wallkill, N. Y.:

"My medical career since graduation is briefly this: During the summer of '91 I remained in Olive, my native town, doing some practice while looking about with a view to finding a better location. During the autumn of that year I settled at Rifton Glen, a small hamlet of this county (Ulster County), doing a fair practice. I remained here about two years when, thinking I could better my condition, I decided to locate at Eddyville, the terminus of the Delaware & Hudson canal and about two miles from Kingston. Here I had a good practice but owing to the decline of the cement business which was the principal industry, I decided to make another change, after spending about five years at this place. I decided to cast anchor at Wallkill, my present location. I settled here in the spring of 1899. Wallkill has a population of about 800, has all modern improvements, water system, fire department, electric lights, church, high school and all the advantages of a first-class village. I am very pleasantly located and own my home. My family consists of wife and one child, a boy about fourteen years of age. I have a large practice and feel quite well satisfied with my present condition so much so that I do not think I shall look for any further change.

Dr. F. E. Dean, South Shaftsbury, Vt.:

"Since leaving the Albany Medical College in '91 I went to Charlemont, Mass. I was there one year. Had pneumonia in the spring of '92. I then went up into the mountains in Vermont and located in Readsboro. I was there three years. On account of the severe winters I left Readsboro in the spring of '95 and came to South Shaftsbury, Vt. I have been here sixteen years this month; have built up a good practice; had a good practice in both of the other places but my health was poor and so I changed to this side of the mountains. I was married the first year after leaving Albany Medical College. I have three boys, the oldest enters a medical

college this fall. It will probably be my old Alma Mater of which I am proud, believing there is no better and many not as good."

Dr. J. W. Droogan, New York City:

"Please put me down the same as ten years ago—a very busy life with fair return."

N. D. Garnsey, Kinderhook, N. Y.:

"I started practicing medicine in Kinderhook May 3, 1891, and am still located here. I was married in Kinderhook in 1895. We have no children. I have done a general practice during the whole time and have enjoyed it thoroughly. Have not gone into politics, nor have I taken up any other kind of work. I have had lots of hard work with no chance to amass a fortune, but have had lots of pleasure out of the work and hope to be able to continue it for another twenty years."

H. W. Johnson, Hudson, N. Y.:

"After graduation in '91, I did post graduate work in the Presbyterian and Roosevelt Hospitals and Vanderbilt Clinic and later at Johns Hopkins. Have visited for observation some of the institutions of London and Paris. I have had but one location, Hudson, an old, reserved, small city with few attractions and little ambition. The one medical help is a good hospital, well conducted in the main. I have met a number of our classmen and have been glad to find that each has attained a degree of success and all have been a credit to the communities in which they have located.

J. W. Joslin, Johnstown, N. Y.:

"I came here in '91 and have been in active practice ever since. Have also been honored by being elected to the office of coroner for six consecutive terms of three years each. As to my success as a physician, I willingly let the 'dear public' decide. As to the coroner's cases, most of them was dead when I got there. Took a course in the New York Polytechnic before coming here."

Edward Joslin, Whitehall, N. Y.:

"Am still in Whitehall, N. Y., where I located in 1892 and am enjoying a fair amount of success and prosperity.

Lewis Le Brun, Albany, N. Y., writes:

"That he located in the city of Albany, N. Y., immediately after graduation and for some years was general practitioner. After a course of study abroad he took up the practice of nose and throat. He is now located at 258 Lark street where he is enjoying a lucrative practice."

Sherwood Le Fevre, Glens Falls, N. Y.:

"Have been practicing in Glens Falls for the last six years as an oculist and aurist. Am married and have one daughter."

M. F. Phelan, Troy, N. Y.:

"The twentieth anniversary of our '91 class finds me practicing medicine, in a more or less general way, in my native city."

Frank K. Roark, Troy, N. Y.:
"After graduation he took up specialty of nose and throat, and after studying abroad, located in Troy, N. Y., where he has since been practicing and enjoying prosperity."

W. O. Scott, Parish, N. Y.:
"After graduating from the Albany Medical College I at once located at Parish, Oswego County, where I have devoted my time alone to my practice. I have managed to keep the wolf from the door and put away a few dollars for old age."

Dr. H. A. Staley began his professional work in Schenectady, N. Y., 1891, the year of graduation, believing in the rolling stone gathering no moss adage he has maintained his office in the original selection for nearly twenty years, and successfully tested the saying. He married in 1895 Lela D. Schermerhorn, of Albany. One child, Leland Staley, was born to them. He is known as an assiduous worker and has a corresponding degree of honorable standing among his clientele. Is a member of the New York State Medical Society, the County Medical Society, the American Electro-Therapeutic Association.

Evert E. Tracy, Prairie View, Ill.:
"After graduation I settled in Youngstown, O., with the expectation of becoming surgeon for a number of iron mills, but after remaining until August of same year, I found that there was nothing in this town for me, but coal dust, dirt, and bad bills I moved to Chicago and have been here ever since. Some months after my arrival in Chicago, I became assistant to Prof. J. B. Hamilton then lecturing on surgery at Rush Medical College and Chicago Polyclinic. From 1895 to 1898 I was one of the professors of surgery at the Chicago Polyclinic. From 1898 until 1905 I was medical examiner for the State Board of Health. In 1901 I was appointed physician in charge of the Illinois State Penitentiary at Joliet, remaining in charge until 1905. The same year (1901) I was commissioned captain assistant surgeon on the staff of the artillery battalion of this State under Surgeon General N. Senn. In 1904 I resigned and was appointed lieutenant past assistant surgeon Illinois Naval Reserves. In 1906 still retaining my office in Chicago I moved my residence to Prairie View a small town or suburb of Chicago, where I have built a modern private hospital of my own. Here I have a great deal of surgical work referred to me and enjoy a good consultation practice. When I first came to Chicago I was very fortunate to become associated with such men as Professors Hamilton, Senn, Henrotin, Hoadly and others, from whom I could absorb a tremendous amount of knowledge and have the advantage of much good, clinical work. However, it was only the knowledge and sound teachings obtained at the Albany Medical College that placed me in a position to be associated with such men. I have visited many colleges and large clinics, but have found none that could put forth more sound teachings than by the faculty of our school. Since 1898 I have had many offers of a professorship in some of the mushroom colleges with the little 'joker' attached to take out a certain amount of

stock, which of course I would not do, and as I have not had the good fortune to become acquainted and smiled upon by Mr. Rockefeller, Carnegie, or any of our other great financial professors of medicine, of course it is impossible for me to become connected with any of our great universities, so I am content to remain plain Dr. Tracy, until some day some one of these great financial professors of medicine will smile upon me and make me third assistant scrub man to the clinical amphitheater, and I will become a full fledged professor. Financially I believe I have done as well as the average physician, although in my early days of practice money was scarce, very, very scarce. I am married and have a boy eight years old."

H. W. Van Allen, Springfield, Mass.:

"Having passed my final examinations with the class of '90 and my diploma being withheld because I had not yet attained the age of twenty-one years, I spent the year '90-'91 as house physician in the Springfield (Mass.) Hospital. After which time I opened an office at the corner of State and Maple streets in this city where I have since been. My work is limited to radiography and electro-therapeutics. Member of the staff of the Springfield, Mercy, and House of Providence Hospitals. President of the local branch of the Massachusetts Medical Society."

Dr. Arthur B. Van Loon, Albany, N. Y.:

"After graduation I was in New York for two years in post graduate work and incidentally took my degree for the second time from the Homeopathic College in New York. I have since my return to Albany been identified with the Homeopathic Hospital here in Albany as attending surgeon and have done what my ability would permit in a quiet way to advance the interests of Albany as a surgical center, and contributed my effort, together with my colleagues, to the building of a new hospital which we must acknowledge is a credit to this city. My career has been uneventful, it is given to but few to attain prominent distinction but it has always been my aim to so deport myself that '91 would be willing, I do not say anxious, but willing, to acknowledge me as one of their number."

Dr. G. J. Van Vechten, Scranton, Pa.:

"In May, '91, I located in East Meredith, N. Y., and practiced there about three years and was fairly successful I think from both a professional and financial point of view. I then left East Meredith and located in North Adams, Mass., where I remained about a year and a half. While there I was appointed county physician, also elected secretary of the Berkshire County Medical Society. There were circumstances of a private nature which made the town undesirable and I left there and in about six months later located in Oneonta, N. Y., a city only ten miles from my first field of practice. I lived in Oneonta about thirteen years and while there was elected coroner of the county and served as such two terms, was appointed pension examiner, also civil service medical examiner, also visiting physician to the Fox Memorial Hospital, which offices I filled until my resignation. I was also made chief examiner for

the New York Mutual, Phœnix Mutual and several other minor insurance companies and orders. Altogether my stay in Oneonta was very satisfactory from all points of view. Three years ago I received a flattering inducement to come to Scranton, Pa., a town of about 150,000 inhabitants, more than fifteen times as large as Oneonta, N. Y., and of course a much larger field possessing greater opportunities for a more extensive practice then I had thus far enjoyed. So I removed to Scranton and it remains to be seen whether I erred or not. I succeeded to the practice of Dr. William Spitzer which has not as yet proved sufficiently lucrative to warrant the change, although I have no doubt in two or three years there will be a substantial gain above that obtained in Oneonta. With the exception of three weeks' illness at one time, I have enjoyed good health for twenty years and I attribute it to a month spent in the woods each year. I am married, have a wife and one son, also a dog and the more I see of men the more I think of the dog."

Dr. J. W. Wiltse, Albany, N. Y.:

"After graduation in April '91, I went home for a short rest. Then came back to Albany and looked the field over here to see if there was a chance to hang out a shingle with a likelihood of success. I decided on 1184 Broadway in what is commonly known as North Albany. I got into my quarters May 15th, six weeks after graduation, and had a paying patient the first day I opened up. Business of a kind, that is, those who had exhausted their credit with all the doctors they knew, who would respond, until they finally got to my door, came rapidly, so in spite of the fact that I was making a great many calls my earnings were small and my living rather precarious. I stayed on the job, however, and the next year I was fortunate in receiving an appointment from the city as one of the district physicians at a salary of $400 per year. The duties of this position in no way interfered with my regular professional work and in the fall of '92 when I took inventory I found with my practice and this small yearly stipend of $400 from the city my earnings had gotten to a point where I paid off an old college debt, that is money borrowed during my college career to put me through the course, of $450, and furnish a flat and October 19, 1902, I married Miss Lizzie M. Bailie, and quit boarding houses and started housekeeping. I remained in North Albany for four years with a constantly growing and more lucrative practice. The flat changing the next spring after marriage into a whole house, barn, etc. In this section of town and three and a half years after marriage my son, now in his sixteenth year, was born. While he was still a baby in arms I decided that I had grown into the fullest practice I could expect to get in that locality and desiring still greater opportunity to expand I decided to move into the more central part of town. Consequently in the spring of '95 I moved into the house and office at 135 North Pearl street, formerly occupied by Dr. Samuel B. Ward. Here I still continued to prosper and held for several years many of my old clients in the North Albany district while gaining many others more centrally located. Here in connection with my family practice I began to do as a special branch some venereal

work, i. e., paying more attention to it than general practitioners usually do. This was because the work appealed to me and also because about this time Albany was establishing its present filtration system which was wiping out typhoid and incidentally slicing large chunks out of the doctors' income. I continued at North Pearl until I finished my three years' lease when I moved to my present location, 6 South Hawk street. I continued general practice but did more and more skin and genito-urinary work and about that time received the appointment at St. Peter's Hospital as visiting specialist in these departments. This appointment came very largely through the efforts of my good friend Dr. John V. Hennessey, to whom I feel the fullest sense of gratitude. Since graduation the idea of a post graduate course in Europe had filled my mind but I was so poor and it seemed so far in the distance especially after marriage and the birth of a baby the increased expenses and the added responsibilities at home seemed almost to preclude the hope of fulfilling this desire. However, with my hospital appointment I felt my unworthiness to dub myself a specialist without more preparation than I had thus far been able to secure and then, too, I had grown to like my new field to the exclusion of everything else medical and felt I wanted to prepare myself to do it intelligently. In the meantime another baby, this time a little girl, had arrived in July, 1900, to add to my responsibilities as a family man. However, in the early part of 1901 I began to make my plans to sail for Europe and on April 23, 1901 I sailed leaving the little girl baby eight months old and the rest of the family with a sick mother behind. Here I must speak of the heroism of my wife who in spite of the fact that she had only just passed the crisis in a sickness that brought her almost into the shadow of the vale of death when I proposed to postpone my trip insisted that I should sail on the date previously arranged for. I went direct to Vienna and worked in the General Hospital there during the spring and summer arriving home in the latter part of August. On my arrival home I received an appointment as instructor in the department of dermatology and genito-urinary work. I have practically confined myself to my specialty entirely during past ten years. Two years ago was made clinical lecturer on my subject in Albany Medical College. My practice has grown steadily and with the blessing of good health for myself and family, I am a contented man."

Dr. Geo. H. Reynolds, Niwot, Colo.:

"I have been very unsettled for the past eighteen months. During a greater portion of this time I have been chasing a tubercular cure in New Mexico and have just recently settled in a small town of Colorado and resumed practice and have a small drug store in connection. Have been fighting tuberculosis for about four years now. Hope to be able to make a better report at end of next ten years."

Robert B. Lamb, Fishkill-on-Hudson, N. Y.:

"I can only say that I entered the State service in the autumn of the same year of my graduation, beginning at the old Auburn Asylum, and coming here the following spring. At the time of beginning work I was an interne. In 1893 I was promoted to junior assistant physician;

in 1896 to senior assistant physician, and in 1900 to medical superintendent, beginning the superintendent's work at Dannemora and continuing it for four and one-half years. At the end of 1904 I came here as superintendent and have continued in this capacity since that time. Those of the class of 1891 who knew me in student days would scarcely recognize in me the vicious creature now frequently pictured in the newspapers. In fact, I have hard work to reconcile my own mind to the change the yellow sheets have produced."

Dr. Walter H. Conley, New York:

"After graduating from the Albany Medical College, I was an interne in the Albany Hospital for a year and a half and then an externe in Roosevelt Hospital, New York, for four months. From that time to December, 1894, I was an assistant to Doctors Albert Vander Veer and Willis G. Macdonald. On December 5, 1894, I was appointed an assistant physician at Buffalo State Hospital, where I remained until March 1, 1902. Shortly after this I came to New York City, where I have since resided, having followed the practice of medicine part of the time and part of the time in the general contracting business. For the past year and a half I have been confidential secretary to the Commissioner of Public Charities, city of New York which position I hold at the present time."

Dr. Lewis Ryan Oatman, Greenwich, N. Y.:

"Graduated from the Albany Medical College in 1891. After serving as an interne for one year in the Ward's Island Hospital (now the Metropolitan Hospital) he located in Gloversville, N. Y., where he remained for seven years. While there he served as both city and county physician and was an attending surgeon to the Nathan Littauer Hospital. In 1900 he removed to Greenwich, N. Y., where he is still located. Dr. Oatman is a member of the Washington County Medical Association and the American Medical Association."

Dr. Edward L. Johnson, Maine, N. Y.:

"After my graduation April 1, 1891, I located at Sloansville, N. Y., where I remained for one year, removing to Central Bridge, N. Y., where I remained for six years doing a large country practice which was successful in a professional and financial way. On account of rheumatism in 1898 I took a trip to the coast, having sold out my property in the east, and deriving so much benefit from the change, and climate that I decided to open an office in Los Angeles, Cali., where I remained for eight years doing special work on the nose, throat and lungs in which I was very successful in every way. In 1905 I returned east on account of my aging parents, and located at Maine, N. Y., where I am doing a large country practice which I would very much like to turn over to some younger man as I am desirous of taking up special work again. I own my home, and some real estate besides having some of the 'filthy lucre' in bank so am not worrying over the financial end of it. My family consists of my better half and my aged mother."

Charles E. Davis,
Historian of the Class of 1891.

HISTORY OF THE CLASS OF 1901

REPORT OF THE HISTORIAN OF THE CLASS OF 1901—THOMAS F. JUDGE, TROY, N. Y.

CHARLES J. BAUM, died.

Dr. ARTHUR J. BEDELL, 354 State Street, Albany, N. Y.:

"Immediately after graduation entered Ellis Hospital, Schenectady, N. Y., as resident. At the end of the year of service went to Philadelphia to begin special study, where he became substitute resident at Wills Eye Hospital in July, 1902, and regular house officer from October, 1902 to 1904. In March, 1904, he started the practice of eye and ear diseases in Albany, where he is now located. Post graduate work was done in Vienna, Berlin and London, 1906 and 1910. Has been connected with the teaching body of the Albany Medical College since 1906. Ophthalmologist and otologist, Albany Hospital, O. P. D., and South End Dispensary; ophthalmologist, Albany Orphan Asylum and Old Ladies' Home. At present is president of the Medical Society of the County of Albany and a member of the State Society and American Medical Association, Ophthalmologischen Gesselschaft Heidelberg, etc. Is unmarried."

Dr. GEORGE S. BURNS, 684 Clinton Avenue, Rochester, N. Y., writes as follows:

"The first ten years in my professional race is almost run, and I want to say pleasantly and successfully—far beyond my expectations. After passing the 'State Board Examinations' in June, 1901, I returned to my old home town, Warsaw, N. Y., to work on the farm. I pitched hay during that year's harvest, and gathered together enough money to purchase a few chairs and a desk for my prospective office. In September, 1901, I went to Rochester, and succeeded in finding a large room, which I had made into two by putting in a board partition. I need not have been so extravagant in purchasing chairs, as it was a long time before anybody came to occupy them. I used Gray's Anatomy and Webster's Dictionary for exercises. During the first six months I was unable to pay my rent, but the people were kind to me. Fortune favored me as soon as the people learned how much knowledge had been imparted to me at the Albany Medical. The best thing I ever did was to get married. After that I rented four rooms up-stairs in the same house, paid up my back rent, and began to save a little. At the end of the second year I purchased a second-hand bicycle. At the end of the third year, I rented the whole house, enlarged my office, and purchased a second-hand automobile—a 'Rambler.' Did it ramble? I found it cost me more when it wasn't running than when it was. I ran it some for nearly two years. I hear that it is now owned by a dairyman, and that he uses it for a churn. Perhaps he gets more out of it than I did. Have had several less expensive cars since then. It pays to get the first wear out of a machine. Thus far I have done general practice and enjoy it. I expect soon to break ground for a new house and garage."

Dr. JOHN W. BURNS, 1725 Broadway, Watervliet, N. Y.:

"After graduating entered the Troy Hospital as resident physician, remaining there one year. Then began practicing medicine at his present

address in Watervliet, N. Y. For the past four years has been health officer of his city, and as such has done much to improve the general hygienic conditions of the town. Has been successful in building up a large general practice. Is married."

Dr. Robert B. Castree, Ballston Spa, N. Y.:

"Has been located there for several years. Has held several town and county positions. Is doing well. Is a member of the County and State Medical Societies."

Dr. Joseph A. Cox, 35 Clinton Avenue, Albany, N. Y.:

"Served as resident physician at St. Peter's Hospital, Albany, during 1901-2. Then located in Albany doing general practice. On several occasions has done post graduate work at Johns Hopkins and elsewhere. Enjoys a large practice, and lately has been devoting his time more exclusively to surgery. Is a member of the various County, State and National Medical Societies."

Dr. Thomas E. Deveny, 643 Third Avenue, Watervliet, N. Y.:

"Since graduation has been practicing medicine in Watervliet, and has been very successful. In June, 1904, married Miss Maria T. A. Maynes of Albany. Has had two children—a girl five years old, and a boy who died in April, 1910."

Dr. John H. Dingman, Madalin, N. Y.:

"Born in Stockport, Columbia County, N. Y. Attended the grammar school at Stuyvesant Falls, N. Y., until 1893. Then took a four years' course at Claverack College and Hudson River Institute at Claverack, N. Y., finishing there and entering the Albany Medical College in 1897. In 1902 began the practice of medicine in Tivoli, N. Y., and in 1903 was appointed village health officer, holding the office for four years, and in 1907 was re-appointed for a second term. In 1907 was appointed assistant railroad surgeon on the Hudson River Division of the New York Central Railroad. In 1907 was elected president of the Tivoli Public Library, and in the spring of 1909 president of the village. In 1910 took a course in the New York Post Graduate School after which he returned to Tivoli and continued to practice there, until January of the present year, when he went to the University of Vienna for post graduate work in pathology and diagnosis at which institution he is at present. Upon completing his course there expects to go to London for work in gynecology and surgery, returning home sometime in the autumn. Is a member of the F. and A. M., Stuyvesant Falls, N. Y.; the Masonic Chapter of Poughkeepsie, N. Y.; the Knights Templars of Hudson, N. Y., and Cypress Shrine, Albany. Also of the Columbia and Dutchess County Medical Societies, the New York State Medical Society, and the American Medical Association of Vienna."

Dr. Gerald E. Griffin, 176 Washington Avenue, Albany, N. Y.:

"Shortly after graduating entered the Albany Hospital where he served for fifteen months as interne. Then hung out his shingle at 114 Grand Street, Albany, N. Y., doing general practice. After about

seven months became associated with Doctors Vander Veer and Elting, as anesthesist continuing this work till the spring of 1909. In the fall of 1907, he visited the various surgical clinics of Europe. In January, 1909, spent the winter in Baltimore at the Johns Hopkins University, taking a course in surgical pathology. At present is devoting himself to general surgery, and is assistant attending surgeon to St. Peter's Hospital, and attending surgeon to St. Peter's Hospital Dispensary. Is also an instructor at the Albany Medical College. On January 7, 1909, he was married to Jessie M. McCabe of Albany, and has been blessed with one child, a girl nine months old."

John M. Griffin, Warrensburg, N. Y.:

"Immediately after graduation he went on service as interne at the Albany Hospital, remaining until October, 1902, at which time he was compelled to resign on account of the serious illness of his sister whom it was necessary to take to the Adirondacks. Located in Warrensburg, and succeeded in building up a large general practice. His sister who was the last surviving member of his family, died in August, 1908. Is still in 'God's own country,' and doing well. Is a member of the National, State and County Societies; also a member of the governing board of the Warren County Bacteriological Institute. Is still a bachelor, but has hopes."

Edward J. Hannan, 211 Fourth Street, Troy, N. Y.:

"Was born in Watervliet, N. Y. Educated at St. Bridget's Academy, Watervliet, and La Salle Institute, Troy, N. Y., graduating from the latter institution in 1897. After graduating from the Albany Medical College, located in Watervliet, N. Y., and later at his present address in Troy. Is attending physician at St. Joseph's Home and Maternity Hospital, Troy, N. Y. Has done work on children at the Post Graduate, New York. Is now an examiner for several insurance companies. Married and has one child living."

Clayton K. Haskell, Monroe Avenue and Goodman Street, Rochester, N. Y.:

"Spent the first twenty months after graduating as resident surgeon at the Albany City Hospital, going from that institution to the Soldiers and Sailors' Hospital, Bath, N. Y., for one year as assistant surgeon, and six and a half years as surgeon in charge. On two occasions has done post graduate work, at Rochester, Minnesota, and also twice at Johns Hopkins. In 1905 he married Miss Bertha Groesbeck, of Albany, N. Y., and is now the fond father of three children—a daughter and twin sons."

John T. Heffernan, 748 Broadway, Albany, N. Y.:

"After graduating became physician at St. Peter's Hospital, holding the above position for one year, and also physician to St. Peter's Dispensary for three years. For the past four years has been coroner's physician, and has also a large private practice. Is a member of the County Medical and several other societies."

Arthur F. Holding, 136 State Street, Albany, N. Y.:

"After graduation he became interne at the Albany Hospital, during 1901-02. During 1902-03 he did post graduate work at Johns Hopkins, Baltimore, and New York City. He spent the years 1902-05, as instructor in charge of the X-ray Laboratory at Cornell University Medical College, lecturer, electro-therapeutics in the New York Polyclinic, and in post graduate work in the Cornell Hospital for Ruptured and Crippled, House of Relief, Presbyterian and other New York dispensaries, gaining experience in the specialties of nervous diseases, children's diseases, gynecology, orthopædic and general surgery, genito-urinary diseases and skin diseases. In 1905 started practice in Albany, and shortly after was appointed attending radiologist to Albany and St. Peter's Hospitals, and instructor and lecturer on radiography in the Albany Medical College. In 1907 was elected vice-president American Roentgen Rays Society. In 1908 he made a trip to Europe studying methods of radiology. In 1910-11 established one of the few complete x-ray laboratories in the United States, located at 136 State Street, Albany. The x-ray rooms have specially constructed lead lined walls and all facilities for the examination of patients by the x-rays, fluoroscopically and radiographically without danger either to the patient or the examiner. He is devoting his attention particularly to the early diagnosis diseases of the chest and gastro-intestinal canal, to the treatment of carcinoma by the newer methods, particularly the x-ray, and electro-surgical methods. He is a member of the State and American Medical Societies and of the executive committee of the American Roentgen Society. Is a bachelor."

Thomas F. Judge, 3226 Sixth Avenue, Troy, N. Y.:

"In order to obtain the funds necessary for taking up the 'State Board Examinations,' after graduation he had to return to work as bookkeeper and salesman. Passed the June, 1901, State Board and was granted a license with honor. In December, 1901, began general practice in Troy, N. Y., and is still there. Expects in January, 1912, to go abroad, and on his return to devote himself exclusively to the practice of diseases of children. In 1904 was married to Miss Mary E. Rowan of Lansingburgh, N. Y., and their union has been blessed by three children—a son and two daughters. Has served as physician in charge of the skin department of the Troy Dispensary. Also two terms as district physician of the city of Troy. Is examiner for several insurance companies. Is also a member of the County and State Medical Societies."

James E. Kelley. Died at Schuylerville, N. Y., in 1909.

Joseph W. Moore.

"Born Cohoes, N. Y., 1879. Graduated from the high school 1897, and the Albany Medical College in May, 1901. Served as interne Saratoga Hospital, June to September, 1901; Hartford Hospital, September, 1901-September, 1903. Began practice in Tacoma, Washington, November, 1903, and remained there till August, 1904. Did contract practice at Roslyn, Wash., August, 1904-May, 1905. Returned to Cohoes, N. Y., and practiced medicine from May, 1905-June, 1906. Since then has done

work in the Manhattan State Hospital, Wards Island, June, 1906-March, 1907; Pathological Institute, Wards Island, March, 1907-April, 1909; pathologist. Central Islip State Hospital, April, 1909, to the present. Married October, 1906. No children."

The poetic life history of Dr. Joseph W. Moore, Central Islip Hospital, N. Y.:

In nineteen one I started out
To show this world a few
Important things which it should know
And I already knew.

In nineteen three, to my degree
I'd added two full years
Of hospital, and then, you see
'Twere hard to find my peers.

I struck out West, because, indeed,
Those poor far distant states
Of such as I were sore in need,
They'd open me their gates.

A New York man, thought I, would be
Assured of early wealth;
My doors, of course, would be besieged
By mortals seeking health.

But, then, I always would insist
On giving up some time
To aid my confreres who had missed
My opportunities sublime.

I'd give a course of lectures free
And clinics of some sort
And they could all consult me
Where their own poor pow'rs fell short.

My first great shock it was to find
My New York license quite
As helpless as a bare behind
With slippers at their height.

Those foolish people made me spend
Three months of constant cram
As though my greatness could depend
Upon their state exam.

But after that I hung my sign
And feeling rather flush
Fixed up my office pretty fine
Then waited for the rush.

I waited 'til my cash gave out
And still those ingrates failed
To realize I was about—
No rush my place assailed.

You all have noticed how some men
Of rare ability
Escape the whole profession's ken
Through sheer humility.

Such must have been my trouble, for
I doubt if in that town
You'd find a soul who's heard of Moore
Who just escaped renown.

Since then I've found a salary
A most convenient thing
Altho' I may again some day
At practice take a fling.

In that event I won't attempt
A medical uplift
But only hope to be exempt
When fortune makes a shift.

Perhaps there are some others here
Who have not yet acquired
That great success in their career
To which their souls aspired.

But don't forget, the fault's not yours
But of those poor fools, who
Insist upon attempting cures
Without consulting you.

JOHN B. NEARY, 1448 Bedford Avenue, Brooklyn, N. Y.:

"Served as house surgeon at the Troy Hospital, 1901-02. Then began practice in Troy. Became police surgeon in 1906, continuing in service as such until 1909. Then gave up general practice to become attending surgeon at the U. S. Government Hospital, Panama. Served there for two years. Now doing surgical work in New York City. Is a member of several medical societies. Unmarried."

DANIEL D. PARRISH, Lyons Falls, N. Y.:

"Born and raised on a farm at Hebron, Washington County, N. Y. Educated at district schools and later at Washington Academy, Salem.

N. Y., and later took a course at the Rochester Business University. Taught school in the State of Missouri, lived on a ranch, made friends with the doctors and Indians and decided to study medicine. Graduated from Albany Medical College 1901. Began general practice in Salem, N. Y., remaining there for about two years. Moved to present residence in August, 1906, and has since been doing general practice. Married, has one child, a son five years old."

Nishan A. Pashayan, 787 State Street, Schenectady, N. Y.

"Born in Armenia on December 28, 1872. Graduated from the Central Turkish College in 1893. Came to United States in 1895. Graduated from Albany Medical College in 1901. From 1901 until 1907, was on the staff of St. Lawrence, Kings Park and Manhattan State Hospitals respectively. Since October, 1907, has been in private practice at Schenectady, limiting himself to the practice of diseases of the nervous system, lungs and heart. Married Miss Charlotte S. Hume of Warsaw, N. Y."

William B. Rosecrans, 1494 Green Avenue, Brooklyn, N. Y.:

"Began practice in Brooklyn in February, 1902, doing general practice. For the last two years has been specializing in gynecology. Married in June, 1906. Has a daughter four years old."

Clarence L. Sicard, 1203 State Street, Schenectady, N. Y. Repeated inquiries have brought no information.

George A. Smith, 562 First Avenue, Lansingburgh, N. Y.:

"Is devoting his time to laboratory work in Philadelphia."

Michael J. Thornton, 119 West 93rd Street, New York. I have not been able to get any reply to my inquiries.

Jacob Wachsman, 514 47th Street, Brooklyn, N. Y.:

"Graduated from Albany Medical College 1901. Passed 'State Exams.' with honor. Began practice in Brooklyn, N. Y. Income fair and if the future ten years be as fruitful as the past, shall have no regrets. Is peculiarly unfortunate in the matter of infecting himself. Seems to have a susceptibility in that direction. In 1904 lost index finger of his right hand because of such infection. At the present time is confined to his bed by erysipelas. Married about three years. Has a son two years old. Is a member of the Kings County Medical Society and also that of the State of New York."

Max Wachsman, 429 43rd Street, Brooklyn, N. Y. No reply.

Leland O. White, Sharon Springs, N. Y.:

"Has been engaged in active practice since graduation at his present location. Is a member of several medical societies and has a large consultation practice having control of many of the springs for which Sharon is famous. Is married and has one child."

Charles L. Witbeck, 137 Mohawk Street, Cohoes, N. Y.:

"After graduation interne Albany Hospital for one year. Then did post graduate work for several years, with Dr. Elting, Albany, N. Y. Then located in Cohoes, forming a co-partnership with his father. Has

a large general practice, as consulting physician. Has also held the office of coroner's physician for seven years. Is a member of all the local, State and American Medical Societies. Unmarried."

THOMAS F. JUDGE,
Historian of the Class of 1901.

On motion of Dr. Tucker, the thanks of the Association were tendered the Historian, Dr. Bedell, and the Class Historians, Drs. Ingraham, Classen, Davis and Judge.

The Nominating Committee submitted the following report by its chairman, Dr. Cotter:

For President

Dr. WILLIAM ASBURY HALL ('75), Minneapolis, Minn.

For Vice-Presidents

Dr. ARTHUR B. VAN LOON ('91), Albany, N. Y.
Dr. JAMES E. SADLIER ('87), Poughkeepsie, N. Y.
Dr. WALTER G. MURPHY ('90), Hartford, Conn.
Dr. W. CLINTON KELLOGG ('84), Syracuse, N. Y.
Dr. WALTER C. GILDAY ('94), New York City.

For Recording Secretary

Dr. J. MONTGOMERY MOSHER ('89), Albany, N. Y.

For Corresponding Secretary

Dr. JAMES N. VANDER VEER ('03), Albany, N. Y.

For Treasurer

Dr. ROBERT BABCOCK ('84), Albany, N. Y.

For Historian

Dr. ARTHUR J. BEDELL ('01), Albany, N. Y.

For Members of the Executive Committee (term three years)

Dr. ERASTUS CORNING ('07), Albany, N. Y.
Dr. WILLIAM P. MASON ('81), Troy, N. Y.
Dr. HARMON H. STALEY ('91), Schenectady, N. Y.
Dr. DANIEL C. CASE ('70), Slingerlands, N. Y.

On motion of Dr. Tucker, the report was accepted and the Recording Secretary was directed to cast one ballot for the names contained in the report. The Recording Secretary then read these names and President Lown declared the members named in the report duly elected officers of the Association for their respective terms.

Announcements of the program of the day, the commencement exercises and alumni dinner having been made, and no further business appearing, the Association adjourned.

Commencement Exercises

The eightieth commencement exercises of the Albany Medical College were held at Odd Fellows' Hall, on Tuesday afternoon, May 16, 1911, at three o'clock, in the presence of a large audience. Samuel B. Ward, M. D., Dean of the College, presided, and upon the stage were seated the members of the Faculty, officers of the Alumni Association and prominent citizens.

The following was the

ORDER OF EXERCISES

Dean Samuel B. Ward, M. D., Presiding.

Music—Selection, "Madame Sherry".....*Hoschna*
Prayer.....Rev. Roelif H. Brooks
Music—Barcarolle, "Tales of Hoffman".....*Offenbach*
Essay.....Percy Henry Finch
Music—"Commencement March".....*Alvarez*
Dedicated to the Class of '11 and played by A. M. Alvarez
Presentation of Candidates for Degree by Dean Ward

CONFERRING DEGREES

By Charles Alexander Richmond, D. D., LL. D.,
Chancellor of the University.

Music—"My Hero," from "Chocolate Soldier".....*Strauss*

ADDRESS TO THE GRADUATING CLASS

Hon. Martin H. Glynn.

Music—"Merry Wedding Bells".....*Jerome*
Valedictory.....Walter Clayton Fox

REPORT ON PRIZES AND APPOINTMENTS.

Joseph D. Craig, M. D.

Music—Finale, "The Hustler".....*Alford*

The Graduating Class was as follows:

Martin Joseph A'Hearn.....Saratoga Springs, N. Y.
Antonio Martinez Alvarez.....San Juan, Porto Rico
La Verne Adelbert Bouton.....Fultonville, N. Y.
Milton Gardner Burch.....North Adams, Mass.
Michael Ercole De Luca.....Troy, N. Y.
Ray Manier Eaton.....North Adams, Mass.
Percy Henry Finch.....Broadalbin, N. Y.
Walter Clayton Fox.....Troy, N. Y.
Frederick Joseph Garlick.....Fall River, Mass.
Bertran Wesley Gifford.....Masonville, N. Y.

*Clayton Longueville Gifford.....Valley Falls, N. Y.
George Mills Glenn.....Auriesville, N. Y.
James Joseph Hart.....Rensselaer, N. Y.
Irwin Johnston.....Watervliet, N. Y.
Frederick Louis Kreicker.....Troy, N. Y.
Arthur Krida.....Schenectady, N. Y.
Harold Arthur Lucas.....Rensselaer, N. Y.
Thomas William Maloney.....Waterloo, N. Y.
William Henry Mason.....Gloversville, N. Y.
Charles Edward Maxwell.....Saratoga Springs, N. Y.
William Edward McCormick.....Albany, N. Y.
John Ashby McElwain.....Cohoes, N. Y.
Maurice James McGrath.....Ogdensburgh, N. Y.
Walter Daniel McKenna.....Troy, N. Y.
Horace Clifford Montgomery.....Waddington, N. Y.
Frank Mathias Neuendorf.....Albany, N. Y.
Henry Joseph Noerling.....Albany, N. Y.
Edmond Joseph O'Donnell.....New York, N. Y.
Abraham Lewis Olshansky.....Albany, N. Y.
Chauncey Butler Packard.....Troy, N. Y.
Augustus Charles Post.....Catskill, N. Y.
Ralph Baker Post.....Catskill, N. Y.
Peter Francis Purcell.....Salem, N. Y.
Francis Bernard Quinlan.....Glens Falls, N. Y.
William Francis Rafferty.....Rensselaer, N. Y.
Hiram Burdette Riggs.....Canajoharie, N. Y.
Scott Booth Schleiermacher.....Bloomingburg, N. Y.
Emil John Senn.....Schenectady, N. Y.
William Thomas Shields, Jr.....Albany, N. Y.
William James Sweeney.....Newburgh, N. Y.
Abraham Phineas Terk.....Troy, N. Y.
Arthur Eddy Wells.....Schenectady, N. Y.
Melvin Thomas Woodhead.....Amsterdam, N. Y.

Dr. Craig presented the prizes. He read a report on the Vander Poel prize, endowed by Mrs. Gertrude W. Vander Poel, in memory of her husband, the late S. Oakley Vander Poel, for many years a professor in the college, stating that the prize, consisting of a clinical microscope and accessories, offered to the senior student passing the best bedside examination in general medicine, has been awarded to Dr. Ray Manier Eaton, with honorable mention of Dr. Antonio Martinez Alvarez.

The prize offered by Drs. Vander Veer and Macdonald for the best report of the surgical clinics was awarded to Dr. William F. Rafferty. For the second best report of these clinics,

*Mr. C. L. Gifford not being of legal age did not receive his degree at this time.

the prize offered by Drs. Morrow and Traver was awarded to Dr. Abraham L. Olshansky.

The prize, consisting of an ophthalmoscope, offered by Dr. Merrill for the best final examination in ophthalmology, was awarded to Dr. Percy Henry Finch.

The Townsend Physiological prize endowed by the late Professor Franklin Townsend, Jr., M. D., was awarded to Mr. G. C. Volovic for passing the best examination in physiology at the end of the first year of study.

Dr. Boyd's prize to the student passing the best final examination in obstetrics was awarded to Dr. Scott Booth Schleiermacher.

The prize, consisting of a case of surgical instruments, offered to the senior student passing the best final examination, by Dr. W. J. Nellis ('79), in memory of his brother the late Dr. T. W. Nellis ('81), was awarded to Dr. Percy Henry Finch, with honorable mention of Drs. Henry Joseph Noerling, Antonio Martinez Alvarez and Hiram Burdette Rigg.

The Daggett prize, consisting of thirty dollars, for the best "anatomical specimens," was awarded to Dr. Arthur Krida.

The Daggett first prize for the best "deportment irrespective of scholarship," consisting of sixty dollars, was awarded to Dr. Arthur Eddy Wells, and the second prize, consisting of thirty dollars, was awarded to Dr. Horace Clifford Montgomery.

Appointed Essayist for 1911, Paul P. Gregory; Alternate, William H. Seward.

A prize, consisting of a Thoma hemacytometer, offered by Dr. A. J. Bedell, for the best report of the eye and ear clinics, was awarded to Dr. Horace Clifford Montgomery.

The following hospital and laboratory appointments were announced:

Albany Hospital: Drs. Ray Manier Eaton, Antonio Martinez Alvarez, Horace Burdette Riggs, Henry Joseph Noerling, Ralph Baker Post, Walter Clayton Fox, Harold Arthur Lucas, Arthur Eddy Wells.

St. Peter's Hospital: Drs. Frederick Joseph Garlick, Scott Booth Schleiermacher, Frank Mathias Neuendorf, Edmond Joseph O'Donnell.

Homeopathic Hospital: Drs. George Mills Glenn, James Joseph Hart, William Edward McCormick, Charles Edward Maxwell.

Bender Laboratory: Drs. Wardner Daniel Ayer, William Dewey Allen.

Samaritan Hospital, Troy: Drs. Irwin Johnston, Clayton Longueville Gifford, William Thomas Shields.

Troy Hospital: Drs. Michael Ercole de Luca, Walter Daniel McKenna, Chauncey Butler Packard, Francis Bernard Quinlan.

Ellis Hospital, Schenectady: Drs. La Verne Adelbert Bouton, Emil John Senn, Melvin Thomas Woodhead.

Cohoes Hospital: Dr. Frederick Louis Kreicker.

Bellevue Hospital, New York City: Dr. Arthur Krida.

Physicians' Hospital, Schenectady: Dr. Maurice James McGrath.

Massachusetts General Hospital: Dr. James Ashby McElwain.

Arnot Ogden Memorial Hospital: Dr. Milton Gardner Burch.

Rochester City Hospital: Dr. Abraham Phineas Terk.

Champlain Valley Hospital, Plattsburg: Dr. Horace Clifford Montgomery.

Seney Hospital, Brooklyn: Dr. Bertran Wesley Gifford.

Mt. Sinai Hospital, New York: Dr. Abraham Lewis Olshansky.

J. Hood Wright Hospital, New York: Dr. William James Sweeney.

Rochester General Hospital: Dr. Thomas William Maloney.

The Alumni Dinner

The thirty-eighth annual dinner of the Alumni Association was held at the "Ten Eyck," on Tuesday evening, May 16, 1911, at nine o'clock. About one hundred and forty were present, including members of the Association, the guests, and members of the graduating class.

Dean Samuel B. Ward acted as toastmaster and addresses were given by Chancellor Raymond, Hon. Martin H. Glynn, Rev. Roelif H. Brooks, Dr. M. M. Lown and Dr. E. J. O'Donnell.

The Thirteenth Annual Meeting of the Albany Medical College Alumni Association of New England.

This association held its annual meeting May 23rd at the Hotel Kimball, Springfield, Mass. A large number of graduates from different parts of the country gathered, and many who found it impossible to be there, sent letters of regret.

Prof. A. Vander Veer and Prof. S. B. Ward, dean of the college were in attendance. The President, Dr. W. G. Murphy ('90) Hartford, Conn., called the meeting to order and delivered the following address:

When this association was organized, by a few graduates in attendance at a meeting of the Connecticut State Medical Society, there was no very definite idea in mind of just what the association should be or what it should do, after it was formed. The thought which summoned the association to an existence, was one of friendliness to each other and a love and grateful remembrance of our college and the days we spent as students. It was, one might say, a feeling of honor; a tie which naturally and pleasantly bound together men from different parts of the State—a feeling of kinship, a handclasp. Like a traveler in dis-

tant lands who meets some one from his home town. An answer to the question, How are things at home?

Our first meetings were simply little reunions and a getting together for a few minutes; an interchange of news of Albany and things going on at the college. Gradually membership in the association was extended to include the six New England States and at a meeting in Springfield, in answer to an invitation sent to graduates, a large and enthusiastic meeting was held. As the association extended its territory, there grew a desire on the part of those to whom the affairs of the organization were entrusted, that our meetings should not be entirely devoted to sociability, but that these occasions should also be opportunities for knowledge and serious work. So the custom of writing members of the faculty to meet with us and instruct us in their part of the work now going on, in the advancement and progress of medicine. We have had excellent talks by members of the teaching staff of the college and this has been a source of pleasure and profit to members of the association. One of the first to visit us was Dr. Vander Veer. Professor Ward was invited the next year and the next, and finally was given a standing invitation to drop in whenever he could. Always something happened to prevent, but this year we are exceedingly fortunate in having both Dr. Vander Veer and Dr. Ward with us.

This association, it seems to me, should continue the original idea of the founders, of meeting one day in the year, a time of sociability and a renewal of old friendships often dating back to college days. These occasions should be set aside as a relief from our every day work and should be emphasized more and more as red letter days of the calendar year when we, with so many interests in common, so many memories of the college days, should drop our work and enjoy again the greetings and friendship of the Albany Medical College, the faculty and student body. Surely we are entitled to these days of recreation and relaxation. We are so constantly on duty, when at home, that a day off now and then is our right.

We should arrange the program of the meetings so that we may take something back home with us—something more than an attack of indigestion. We should be something more than a society with an annual appetite. We should not forget our responsibilities to the college. And particularly at this time, when the Albany Medical College has been so severely criticized, should we be willing and anxious to prevent such criticism in the future.

This afternoon we will hear much of vital interest to us of the work now going forward for the upbuilding and improvement of the college. We should be proud of an institution, which so promptly rallies from the blow it has received. You know and I know the standing of the Albany Medical College and what this school has done for its students. If you visit the city, the town or the four corners where Albany graduates are located; if you attend conventions where papers are read or discussions held, Albany men are making good.

It has always been a disputed point in education whether the large university or the small college offers the best opportunities for knowledge and advancement. It is not for me to attempt to decide that question—there is much to be said on both sides. After all it depends much upon the individual student. Granted that a large university offers many advantages in size and material as pertains to the study of medicine, there is yet an advantage in the smaller college which no university of hundreds of students enrolled can hope to offer and that is the close relationship and association which occurs between instructor and pupil. No college course of four years can hope to teach all there is in modern medicine—a life time is not sufficiently long. A college can however start a man with ideals and a desire for knowledge; it can formulate habits of thought which grow and continue to grow as time goes on and which will develop into traits of character and methods of work, which will give much more than can be read from books. Medicine is an art and a science. A physician, in whom education develops both the art and the science, is a far better and safer man in a community than one whose accomplishments are all art or all science. The influence of instruction at the bedside, in the laboratory, the post mortem and clinics while necessary and imperative, is not so great as all of these things plus the example and professional influence of teachers who are intimately associated with their students. There is much in the older methods of teaching medicine which should not be entirely eradicated—the apprenticeship of former days has much to commend it. The intimate association of teacher and student, where much of the art of medicine is learned can not be superseded by any method of instruction which forgets or ignores the personality of the individual patient. Medicine cannot be confined to the case alone however intricate and exhaustive the methods of investigating that case may be. In a study of the personality of the patient, the art of medicine often accomplishes results, when science absolutely fails.

One strong feature in the education of students at the Albany Medical College has been the safe and sane combination of the art and science of medicine, but above this and equally valuable has been the personality of the men of the faculty. It has seemed to me that it was possible to pick out a graduate of Albany among other physicians by recognizing a transmitted personality from some member of the faculty. There seems to be a resemblance, like members of a family, to each other. A difference in individuals of course, but yet certain traits or customs which are more or less pronounced in all.

Perhaps I could but illustrate my meaning of this personality by referring to a remark made by one of the professors during my senior year in college. The professor said, "You are entering upon a new life, you will find the practice of medicine a difficult and yet pleasant undertaking, there will be many days of discouragement, many sleepless nights

of worry and anxiety. You will make many lasting and true friends and also, unhappily, some enemies. You will be criticized, you will be misunderstood and censured when you have done your best, when you have honestly tried, when you surely do not deserve it and on the other hand you will be praised when you deserve it just as little."

The humanity, the worldly wisdom, the knowledge of men and the physician's life embodied in this trite saying has been of inestimable help and comfort on many a dark day—the knowledge that others have had disappointments and trials is often the greatest comfort—that others have gone through the same experiences and yet kept on and on ever upward and onward is a stimulus to the least of us.

It is this humanity which has always been the strongest asset of the Albany Medical College—an example, a precept, a goal to be attained, showing plainly, lovingly compassionately like a light in the window of home.

Combine this with the science of medicine and what can any institution offer which will be of more lasting benefit to its students? What better work can the association do than to help that institution which has done so much for us, its graduates?

A vote of thanks was extended to the president for his excellent address and Professor Vander Veer was called to speak on the present and future conditions of the college. He detailed in a very graphic way the organization and progress of the Bender Laboratory, and its value as a teaching power in the college, also the efforts and work of the new hospital.

The energy and wisdom of the committee was apparent in the formation of a very elaborate hospital with complete appointments and all without debts. He spoke of the great teaching facilities the hospital presented, equal to that of any other in the largest cities and declared this was due to the enthusiasm of the alumni of the college and its friends in Albany.

He gave a detailed history of the old college building and the prospects that it would soon be replaced by a larger and more complete building in proximity to the hospital. He spoke of the improved classes and enlarged teaching facilities which were developing every year.

It was evident from the very graphic history he gave, that the management of both college and hospital showed great business skill and wisdom in devising means, which required energy, faith and enthusiasm.

His remarks were received with great satisfaction and applause.

The Committee on Nominations for officers for the ensuing year reported as follows:

President—Dr. A. L. Newton, Northfield, Mass.
Vice-President—Dr. G. T. Janes, Westfield, Mass.
Secretary—Dr. E. C. Collins, Springfield, Mass.
Treasurer—Dr. H. W. Van Allen, Springfield, Mass.
Board of Governors—Dr. E. S. Albro, Bellows Falls, Vt.; Dr. H. W.

Van Allen, Springfield, Mass.; Dr. F. S. Smith, Bridgeport, Conn.; Dr. C. L. Skelton, Providence, R. I.; Dr. F. E. Clark, Westfield, Mass.; Dr. T. D. Crothers, Hartford, Conn.

Committee of Arrangements—Dr. A. L. Newton, Northfield, Mass.; Dr. W. G. Murphy, Hartford, Conn.; Dr. W. W. Broga, Springfield, Mass.

The Committee of Arrangements treated the members of the Alumni Association to a delightful drive about the city in automobiles. The various parks and hospitals were visited and drives to the residential section was very enjoyable to all.

In a vote of thanks which was given to the committee, the visiting members expressed great pleasure and surprise at the richness of the public buildings and hospitals, also the beauty of the parks, and the conclusion was unanimous that Springfield was among the ideal cities of New England, in every respect.

The annual banquet was served in the evening and among other noted addresses was that of Professor Ward, on The College and its Teaching Facilities. He called particular attention to the fact that nearly every student passed the state boards in every part of the country, and that some entire classes passed.

He spoke of the old methods of teaching and the more modern ones, and urged that the Alumni come to Albany and observe the great changes that were going on.

His address sparkled with reminiscences and stories. Dr. Vander Veer called attention to the fact that the Alumni had attained such prominence as to reflect great credit on the college and its teachings, and in all parts of the country many of the leading men dated their training to this college.

He urged those present to renew their interests and sympathies and partake of some of the pride and satisfaction which the Alma Mater had in its numerous and distinguished graduates.

Dr. Abrams of Hartford, Conn., acted as Toast Master and gave some very pleasing reminiscences of the influence of the college and its individual teachers on different persons, and how such influence extended through all later life.

Remarks were made by Dr. Murphy, the retiring president, and by Dr. Newton, the newly elected president. Dr. Crothers described the inner history of the Carnegie Report on Medical Colleges, and indicated that while the results were very good, it could not be taken seriously, and was not recognized as an exact statement of facts.

Dr. Broga responding for the Springfield physicians thanked the Alumni for its flattering words of praise, and reminded them that all towns, however beautiful, were not paradises for the practice of medicine. Beautiful hospitals and parks had many advantages as well as disadvantages. He closed with some striking illustrations of the newer requirements and demands in the practice of medicine.

The meeting closed with resolutions of thanks to Professors Vander Veer and Ward, with hopes that they would visit us again, and bring the cheer of our Alma Mater. The meeting was then adjourned.

In Memoriam

WILLIS GOSS MACDONALD, M. D., LL. D.



Willis Goss Macdonald, M. D., LL. D.

Dr. Macdonald had been in his usual health, and gave a dinner at the Fort Orange Club on the evening of December 24th, 1910, to a number of his friends, at which time the subject was discussed, and the hope expressed that we might be able to secure from the Board of Supervisors of the County, a sufficient portion of the penitentiary grounds upon which to erect the new buildings, deemed necessary, for the Albany Medical College. Sunday morning, while visiting his patients at the Albany Hospital Dr. Macdonald said he felt very tired, and after seeing the most important cases said to his assistant he would excuse himself and return to his office. In the afternoon he thought he was suffering from a sudden cold and had quite a marked chill. In the evening his condition did not improve, his temperature reaching 103° F. and his physicians were called in to see him. The diagnosis of pneumonia of the left lung was made, and at once it was realized he was a seriously sick man. At no one time did his condition present any marked improvement, although his temperature ranged from 103° to 105° F., on Thursday being some better, and a slight improvement in his respiration; however, on Thursday evening his symptoms grew more serious, the right lung became involved, and he passed away Friday evening, Dec. 30th.

The writer had known Dr. Macdonald as a student almost from the time he began the study of medicine, and his many excellent qualities will never be forgotten. He was a genial, lovable man in many ways. Even as a student he was a close observer and had acquired a system of analysis, while a teacher in the public school, that was of great service to him in the later studies in his chosen profession.

As a student Dr. Macdonald was industrious and faithful in the discharge of the duties that devolved upon him. He came to my office during 1885, bringing a letter from his preceptor, Dr. Samuel Cross, of Cobleskill, and a graduate of the Albany Medical College. My first conversation with him aroused my interest in his capabilities, for he made a most favorable impression. He expressed a desire to work and soon grasped the conditions that were then offered in investigation, and in selecting the advancements being made in the new surgery of the

day. The evolution going on at that time, from unclean to clean surgery, charmed him. He fully appreciated the change then developing in surgery, especially the new department of bacteriology and research work in the study of general and surgical pathology. He was broad-minded and loved every department of his newly sought profession, but the principles of surgery claimed his close attention. Later, when entering into its practice, he often told me of the pleasure he experienced in doing a satisfactory operation. As a student he was thorough, and no amount of study seemed too much for him to perform. I never made a demand upon his time to which he failed to respond; no call to the morgue to do some experimental work upon the cadaver failed to command his immediate attention. Few students in my office rendered so much aid in research work and in the understanding of the germ theory of surgical diseases as did Dr. Macdonald. His pathological studies, in examination of urine, and other secretions from the various parts of the body, were carried out patiently, persistently and intelligently. At this time he did a vast amount of reading, all of which he clearly assimilated. Possessed, as he was, of a judicial mind, he seldom erred in his estimate of what was of real value. Later, in his professional work, this habit of extensive reading, and mental ability to analyze and classify the writings and opinions of others, became of great value in his medico-legal work. Immediately after his graduation, in 1887, he became an interne at the Albany Hospital. It will be remembered that this was the beginning period of our abdominal work, and a great advance in doing operations within the peritoneal cavity, which, previous to this era, were considered quite impossible. In all this kind of surgery, and in operations upon the joints, Dr. Macdonald became greatly interested. After ending his service in the hospital he became my assistant, and in a few months made his first trip abroad, where he attended clinics and worked in the pathological laboratories in Vienna and elsewhere for nearly a year. During that time he wrote me many interesting letters in regard to what he had seen and heard of the work of some of the best German surgeons. During his absence it was my pleasure to recommend his appointment as assistant attending surgeon to the Albany Hospital. Later Dr. Macdonald made other

journeys abroad, always striving to keep abreast of the best work being done there. While absent our correspondence was very encouraging and he brought back with him the first autoclave introduced into the Albany Hospital for the sterilization of dressings. We were now making such progress in our abdominal operations as to attract the attention of many members of the medical profession. Dr. Macdonald early developed a love for operative surgery, and later became a brilliant operator.

Our relations were always pleasant in the discussions upon new operations, new instruments, new books, new theories, and his originality of thought impressed me with a respect that never lessened. Dr. Macdonald was a careful reader of the medical journals and loved to go over the views of medical writers, generally being quite just in his criticisms. Later, when he had his own office, he was fond of adding to his medical library the best of the new books, now so largely offered, while his collection of standard and current literature grew rapidly. Dr. Macdonald was of great service in the study of the plans and construction of the new buildings for the Albany Hospital. He performed most of his surgical operations there and added greatly to the administration of the plant. His early association with me was at a time when the overflow work of the office was very great and out of town and night calls getting beyond my ability to care for. In answering these he uniformly gave good satisfaction, retaining the confidence of the family physician and friends of the patients. This enabled him to develop a large consultation practice and his physical strength seemed equal to it.

Dr. Macdonald was first to conceive and to act in the organization of the South End Dispensary. His powers of organization were excellent, and his executive ability—although occasionally blended with procrastination—consistent and firm.

In 1897 he was appointed attending surgeon to the Albany Hospital, occupying that position at the time of his death. His work as lecturer and professor of abdominal and clinical surgery in the Albany Medical College was eminently successful. Since his death many letters have been received from graduates of the college, and from his former associates in practice lamenting his decease and exhibiting the degree in which he will be missed.

Dr. Macdonald had many ways of expressing his methods of doing things.

When the Spanish-American War broke out Dr. Macdonald volunteered his services and left a large and lucrative practice to give his country and its defenders the benefit of his services. He was commissioned major and surgeon of the United States Volunteers and had charge of the surgical division of the military hospital at Fort McPherson, Georgia, during that conflict. Instruments and surgical dressings failing to arrive in time to suit him he telegraphed me his desires and had them sent to him at once. This was his contribution to his country in its time of need.

Dr. Macdonald did much to advance the campaign against tuberculosis and to secure an appropriation for the sanatorium located at Raybrook.

He had an intimate acquaintance with the leading men in the legislature of this state and his advice on medical matters was often sought.

He was elected a Fellow of the American Surgical Association in 1901, while in Europe, and this honor gave him great pleasure. His thorough work in that organization was much respected, and, as in other national associations, always appreciated.

He will, indeed, be missed by his fellow associates in the various organizations and institutions with which he was connected. As a member of the State Board of Medical Examiners, in the department of surgery, he was ever earnest, his great desire being to do full justice to the applicant to be licensed, yet to protect the state and public to the utmost.

In his life Dr. Macdonald has left us an example of great industry, and for a man of his physique the amount of work he was able to perform was wonderful.

His connection with the Albany Medical College has ever been a wholesome one. At times he was very firm with the students, yet labored faithfully to present the subjects upon which he was lecturing with great conscientiousness, and spared no pains to make his lectures and clinics interesting and profitable.

The citizens of Albany, of the surrounding country and members of our profession do well in erecting a memorial

laboratory as a monument to the excellent work he accomplished during his lifetime. In the doing of this it is touching that the first subscription, as well as the later generous offerings, came from one of the medical students, and the second from a graduate nurse.

Dr. Macdonald died an honored alumnus of the college and worthy to be ranked with such graduates as the following who preceded him: Drs. S. D. Willard, Pomfret, Quackenbush, Mner, Howard Townsend, Haskins, Craig, Hanks, Didama, Mynderse, Swinburne, Mosher, Bailey and many others with whom the writer was personally acquainted.

He rests with his kindred who have gone before, but the life Dr. Macdonald lived, in the service of the suffering sick, should be an example to every student and member of the medical profession.

Since his death another Albany College Commencement day has come and gone, the fine record Dr. Macdonald left was discussed in many conversations, and great sorrow expressed by all for the loss sustained by the teaching force, as well as the Alumni Association.

A. Vander Veer.

Albany Hospital Staff

A special meeting of the medical and surgical staff of the Albany Hospital was held at the Albany Medical College yesterday morning and action taken on the death of Dr. Willis Goss Macdonald. Several members present spoke feelingly of the death of Dr. Macdonald. The following resolution was adopted:

"The sun has set and a life has run its earthly course, a man big of heart, of masterly mind and of untiring devotion to duty rests from his labors, and happy is he of whom it may be said, 'He lived his life' ably, faithfully and truly and those who knew him best loved him most.' Such a man was Willis Goss Macdonald, the memory of whose life span comes to all who knew him as an uplifting example of work well done and an inspiration for a higher and nobler effort.

"Realizing the great loss which the community and this institution with which he was so closely identified has sustained in the death of this truly great man, be it

"Resolved, That we, the medical and surgical staff of the Albany Hospital, desire to express our great sorrow and deep sense of loss in the death of Willis Goss Macdonald and wish to extend to his family our most sincere sympathy. It is also further

"Resolved, That this resolution be spread in full upon our minutes and a copy be sent to the family."

In Memoriam.

Minute adopted at a meeting of the trustees of the Albany City Free Dispensary Association, held January 1, 1911, on the death of Doctor Willis G. Macdonald:

"The melancholy announcement of the death of Doctor Willis G. Macdonald has affected his associates on this board with profound sadness. He was the projector of the dispensary; it was his energy and power of organization which made its creation possible; it was his influence and magnetism which attracted the charitably disposed people of Albany towards it; it was his benevolent spirit which furnished the funds for the purchase of the property occupied by it, and it was his eminent position and standing as a physician and surgeon that earned for the institution the confidence of the needy sufferer and the support of the public.

"His was not a mercenary nature. His professional labors and personal means were always at the service of the unfortunate. It was during his gratuitous ministrations to the ill-fated and wretched that he discovered that no provision had been made for medical or surgical aid to the poor of the southern section of the city, and the dispensary was the outgrowth of his determination that this want should be properly met.

"How earnestly and zealously he labored to maintain the highest standards and thereby accomplished the greatest degree of good to the deserving; we, who have been his associates, can truly testify.

"It seems but yesterday that he directed his activities towards putting the institution upon a better financial basis and called upon his fellow trustees to aid him in his task.

"There are others who will speak of his professional attainments, his benefactions, his civic pride and public spirit, his diversified talents, his ability as an instructor of the student in medicine, the creditable manner in which he discharged his duties and responsibilities of the several positions of honor and trust which he occupied and of his loyalty to his friends; but we shall always remember him as the founder of the dispensary and its greatest benefactor.

"Resolved, That this tribute be spread on the minutes of the association and a copy be published in the local papers and transmitted to the parents of the deceased.

Albert Hessberg,
Edmund N. Huyck,
James B. Lyon.

In Memoriam.

Willis Goss Macdonald, M. D.

The members of the Old Guard, Albany Zouave Cadets, having learned with deep regret of the death of their friend and comrade, Willis Goss Macdonald, M. D., wish to give public expression to their sense of profound sorrow at this unexpected sad loss.

By his death a most distinguished surgeon, public spirited citizen, noble and generous hearted man is removed from a community that can ill afford and keenly feels and mourns the loss.

He occupied a unique position among our people and was greatly beloved. The distressed and needy, to whose cause he at all times gave willingly of his time and services, lose a staunch friend and benefactor, and our organization in which he took a deep interest suffers the loss of a conscientious co-worker.

His genial disposition, which was one of his most prominent characteristics, made for him friends wherever he happened to be, and his cheerful words have comforted many whose dear ones have been entrusted to his tender care.

His active military career, though brief, was important. He was surgeon of the United States Volunteers with the rank of major in the Spanish-American war, and was chief surgeon at the hospital at Fort McPherson during the war.

"Resolved, That the members of the Old Guard, as a token of their respect to the deceased, attend his funeral in a body and that a copy of this record be sent to the bereaved family."

James H. Manning,
Howard Batchelder,
Albert J. Wing.

Dr. Willis G. Macdonald

A meeting of the Faculty of the Albany Medical College was held on Saturday evening, December 31, 1910. Remarks were made by the various members of the Faculty in an affectionate and impressive manner, and the following memorial was adopted:

After an interval of many years unbroken by the loss of one of its membership, the death of Dr. Willis G. Macdonald, Professor of Abdominal and Clinical Surgery, on December 30, 1910, falling with startling abruptness in the very midst of his highest activity, terminating a career of inestimable worth to our institution, and ending an association of the highest meaning to every one engaged in this common work, comes to us in these closing days of the year with a sense of irreparable loss. Almost from the time of his graduation from this institution, in 1887, he has been engaged in the teaching work of the Medical College. In the course of that time he has, by the ready capacity for attainment of a superior intellect, acquired a knowledge of his chosen field of work, by intimate association with others who were gaining daily knowledge in its varied problems, by fellowship with medical bodies, by large hospital and consultation experience, by the original investigation of a well-ordered mind, that placed him in the foremost ranks of the surgeons of the country. He has been a conspicuous member of the medical profession, a man of influence among his fellows in it. His attainments and his personality have been such as to give him supreme value wherever he had a part. This community has had the benefit of this as have the associations of

which he was a member, the tuberculosis work in which he was an active participant, the Albany Hospital, the Bender Hygienic Laboratory, the South End Dispensary, and the College, where he has given the wealth of his garnered knowledge and wise counsel in the conduct of its affairs. His death brings us the loss of an associate whose contribution to the work we have in mind has been beyond valuation and whose friendly presence and strength we shall miss beyond which words can express.

A. Vander Veer,
Samuel B. Ward,
Willis G. Tucker,
Frederic C. Curtis,
Samuel R. Morrow,
Committee.

Macdonald Laboratory Is Planned—Lasting Memorial Is Proposed to Eminent Surgeon—Fitting Tribute to a Great Man—Building Will Continue His Life Work—Many Eulogies Are Spoken at Public Meeting

A permanent memorial, probably in the form of the Willis G. Macdonald Laboratory, to be built and used in connection with the Albany Medical College, will be the result of the public meeting, held in memory of Dr. Macdonald, at the Albany Institute and Historical and Art Society building. The speakers were all of one accord—and that was that the memorial should be a laboratory. Dr. Charles Alexander Richmond was appointed the chairman of committee to immediately take up the work of raising the funds and to further the movement in any way possible.

There was a large gathering of representative Albanians at the meeting—not only physicians and surgeons, but men from all professions and lines of business. The keynote of the entire meeting seemed to be that a memorial should be erected and there is little possibility of failure.

Universally Eulogized

It is seldom that a man in private life is so universally eulogized as Dr. Macdonald, and the memorial, if built, will be a monument to the spirit of gratitude of Albany as well as the memory of the late surgeon.

A number of subscriptions have already been received by the Medical Society and it is expected that sufficient funds will be raised in a short time.

The meeting was called to order by Dr. John H. Gutmann, president of the Albany County Medical society, who said:

Dr. Richmond Presides

"The dignity and importance of the occasion, require that the chancellor of the university should preside. Therefore I introduce Dr. Charles Alexander Richmond."

Dr. Richmond said that he regarded it a privilege to preside at the meeting and thus show in an inadequate way his admiration for Dr. Macdonald as a surgeon and his love for him as a friend. He then

called on Dr. MacFarlane to read the letters of Drs. Vander Veer and Ward, who were unable to be present. Both Dr. Vander Veer and Dr. Ward expressed their regrets that it was necessary for them to be absent from the meeting and voiced themselves as heartily in favor of any movement, which might be started, to erect a permanent memorial to the dead physician and surgeon. Both physicians paid a high tribute to the life and character, as well as to the work of Dr. Macdonald. Dr. Vander Veer said in his letter:

"We have been telling of his virtues, his noble acts of charity, of his great skill as a surgeon, and now the opportunity is ripe for some definite expression of our affection for him as a physician and a friend."

Resolutions Adopted

The following resolutions, drawn up by the memorial committee of the medical society were read by Dr. James F. Rooney and adopted by the meeting:

"A distinguished surgeon and honored member of this society, who even at his admission in 1888 foreshadowed renown, has in the noonday of life passed to the great beyond. From the inception of his membership his activity in the deliberations of our society was marked.

"To its lustre he added by his officership as secretary, vice-president, president and delegate to the state society. His contributions to the professional world were remarked for their cogency, their reason and their brilliant discernment.

"In the halls of legislation he always by presence and voice championed the interests of the commonwealth and added to the honor of the profession.

"It has pleased the Author of all things to take from us in the midst of his service, His servant Willis G. Macdonald. Not for ourselves alone do we sorrow, but for the people of the city, state and nation over the loss of one who to great brilliancy added sound reason, to great place a great humility, to great attainment a great studiousness and to great loyalty a great friendship. Therefore, be it

"Resolved, That we, the Medical Society of the County of Albany, do add our tears to theirs who sorrow for a son and brother, while for a friend beyond price, a surgeon of great worth, a beloved teacher, a man above men. And be it also

"Resolved, That this expression of our grief be spread upon the minutes of our society and a copy thereof be transmitted to the relatives of our departed colleague."

Dr. Richmond eulogized Dr. Macdonald to some extent, but said that the meeting was not held to pay formal tribute to the memory of the famous physician.

"It is how much he gave, instead of how much he left," said Dr. Richmond. "It was the keynote of his life, to give, and we are here to-night not only to think of our friend but to settle our debt in a small way, by informally expressing the feeling of our hearts."

Tribute by Father Walsh

Dr. Richmond was followed by Father Walsh, who remarked that he did not know Dr. Macdonald personally, but was acquainted with him through the great work which he had done in the city and country. Father Walsh paid a glowing tribute to Dr. Macdonald, not only as a physician and surgeon of great skill, but for the many acts of kindness which made him known to nearly every citizen of Albany.

"We will render honor to whom honor is due," said the speaker, "and for that reason we are gathered here to-night to pay our tribute to one whom we have known so well."

Dr. Richmond called on Dr. Willis G. Tucker, who, although unprepared to speak, said that he could not fail to add a word to honor a good friend and associate.

"I have known him since he entered medical college," said Dr. Tucker, "and as one of his teachers have watched with pride, his development as a surgeon throughout the state, and even the nation. He was a remarkable man and was imbued with the scientific spirit. He looked for the truth, and being a practical man, made use of the facts as he found them. He was more than this—he was a humanitarian, a philanthropist and a citizen, always engaged in the best interests of Albany."

Rev. W. W. Battershall

Rev. W. W. Battershall, rector of St. Peter's church, expressed himself as being grateful for the privilege of speaking his appreciation of the man and the purpose of the man who had called the gathering last night.

"I notice a large representation of the profession of the man whose name we honor," he said, "and I do not wonder that you are here, for if I hear aright, a great man has been taken from your ranks. His knowledge made him a leader—a notable man. His quality of work placed him in the front ranks of his profession. No man can live in a place of intimate touch and contact like Albany without being a revelation. He declares his personality in the doing of his work—the man stands revealed. Thus it was with Dr. Macdonald. A fine spirit of sympathy and a passion of rescue, characterized the career of the man."

Speaks of Dr. Macdonald's Career

Judge H. A. Chester, the next speaker, dwelt on the career of the man and of the remarkably short time in which he had risen to the front rank of his profession.

"He has built his own monument," said Judge Chester, "and what we can do will be of little value. But if we build a memorial, let us have something worthy of the man—a thing of beauty and not an architectural monstrosity." Judge Chester closed his remarks with an earnest appeal for aid in the building of the memorial.

Charles Gibson's Remarks

In the course of his remarks Charles Gibson said:

"Very few of us realize the great natural ability of Dr. Macdonald. He could have been a great judge, or a great editor. He had ability and

taking up surgery and medicine as his profession, soon made his way to the top. All of our citizens should be interested in the movement of building a memorial. It should not be confined to a few of the rich, but should be general and popular. Let us do our best and erect a monument which is fitting to the man."

Felt a Personal Loss

Dr. Arthur W. Elting said that it was with a deep feeling of personal loss that he spoke of Dr. Macdonald. "Dr. Macdonald gave his life and energy to his work," the speaker said, "and entered the work at the transitional period. On his return from Germany he entered the field of surgery and he was in no small way responsible for the establishment of the state laboratory for the manufacture of anti-toxins. Nothing can perpetuate the memory of the man as well as a laboratory, which will continue to do the work he was so deeply interested in. I also think that we should have an endowment fund for the future use of the laboratory."

Told of His Kindliness

Martin H. Glynn was the last speaker of the evening. Mr. Glynn was an intimate friend of Dr. Macdonald for many years and related a number of anecdotes, which illustrated the kindliness and charity of the man.

"He was more than a great physician or surgeon," said Mr. Glynn. "He was a great man. He was big physically, bigger mentally, but bigger than either of these in heart. In his death Albany suffers a calamity and he will be missed in the life of the community. To do good was his gospel and charity was his creed."

Mr. Glynn closed his remarks by putting a motion that Dr. Richmond be given the authority to appoint a ways and means committee to further the work of building the memorial. The motion was passed and the meeting was declared adjourned.

Society Proceedings

MEDICAL SOCIETY OF THE COUNTY OF ALBANY.

MEMORIAL MEETING—WILLIS G. MACDONALD, M. D.

A special meeting of the Medical Society of the County of Albany was held in the Albany Medical College on Sunday, January 1, 1911, at one o'clock, to take suitable action on the death of Dr. Willis G. Macdonald. Eighty-two members of the Society were present when the President, Dr. John H. Gutmann, called the meeting to order.

Dr. GUTMANN said: "It grieves me very deeply to be compelled to assemble you for this special meeting, that you may be afforded opportunity to pay your affectionate respect and homage to the memory of my kind friend and benefactor, your late associate and colleague, Dr. Macdonald.

"Taken away at a time when his capabilities and best efforts were in their ascendency, when his resourcefulness and wise counsel could mean so much for this college and all that it represents to this community his death is a most lamentable loss to this Society and to his Alma Mater.

"He was, in the truest sense, and literally, a very great man. Nature endowed him with unusual potentiality, and with qualities that marked him as a wholesome, big-hearted, lovable friend.

"In his profession his medical fund was inexhaustible. He seemed to have no limitations. All of you know, and have felt the comfort and the help his presence afforded to those who were in need of superior medical skill. The mention of his name, his appearance in the sick room gave renewed hope and clarified many doubtful situations. His efforts were always instructive.

"In the proceedings of this Society his discussions were illuminative and many times novel.

"He has been a bulwark to this county and we deem it an honor to have been associated with him in the pursuit of higher professional learning. He represented much that was ideal in life and American manhood and we may well profit by the high standard which he maintained with such ease and so naturally. Nature gave him to us and Nature has taken him away. It is well for the world that he lived."

At the close of Dr. Gutmann's remarks, Dr. Albert Vander Veer paid the following tribute to Dr. Macdonald: "In our gathering to-day in whatever eulogies we may offer in memory of our deceased ex-president, and long fellow worker, in all that may be said in commendation of his past life, with charity for the human foibles, of which few of us are free, we are seeking to place on record the admiration and affection we had for him while living, which will not cease while we continue the duties that are yet left us to perform in the profession of which he was so fond.

"As a student in my office, Dr. Macdonald was an example of great industry, a close observer, able to estimate the writings then so forcibly being presented on antiseptic and aseptic surgery, and the development in pathology of the new department of bacteriology. He grasped all these investigations and advances in a masterful manner, and I wish to say here that of all the students who have ever registered in my office I cannot call to mind one who rendered so much aid in the research and understanding of the germ theory of surgical lesions as did he. Mr. Lister had introduced his great system of destroying the germs that he believed existed in the air, which especially caused suppuration and the lack of success that often attended our surgical operations. But even his investigations did not altogether bear the test of time and experience. When such men as Mr. Tait, and others, developed the theory of cleanliness, and doing away with antiseptics, I talked over the work I had seen Mr. Tait do, with Dr. Macdonald, and he became intensely interested. Later, when Mr. Tait visited this country, few of the students were so close in their observations of the work he did in the various hospitals as Dr. Macdonald. A little later, when we were following out Mr. Tait's theories, more especially in the preparation of sponges, and the use of

sterile water, I had no assistant equal to Dr. Macdonald. He would see that filtered water was conveyed from my house to the hospital, and there, after boiling, used for our surgical operations. It must be borne in mind that the old buildings, on the corner of Eagle and Howard streets, were far from being free from septic conditions. Erysipelas predominated quite frequently, but, through our constant, persevering fight against dirt and lack of ventilation we gradually developed that branch of surgery that was then coming to the front with such force, i.e., abdominal operations, and few men were entitled to more credit than Dr. Macdonald for what was accomplished along this line of work. After his graduation his desire to see more of advanced surgery led him to go abroad where he continued his studies in a most advantageous manner. Our correspondence was very encouraging and he brought back with him the first autoclave introduced into the Albany Hospital, for the sterilization of dressings. We were now making such progress in our abdominal operations as to attract the attention of many members of the medical profession. Dr. Macdonald early developed a love for operative surgery, and, as an illustration of the confidence he had in his own ability I give the following: One day, while in the amphitheatre, and about to operate upon a young lady, for removal of an ovarian tumor, I walked over to the other side of the room to look at some dressings. Upon returning to the patient I was greeted with the remark 'Doctor, I thought I would facilitate the work greatly by making the incision and having everything ready for you to enter the abdominal cavity.' This was certainly an unheard of departure on the part of an assistant, and I quietly said, 'Please let me know hereafter when you are about to begin this work.' Our relations were always pleasant in the discussions upon new operations, new instruments, new books, new theories, and his originality of thought impressed me with a respect that has never lessened. Dr. Macdonald was a careful reader of the medical writers, generally being quite just in his criticisms. Later when he had his own office, he was fond of adding to his medical library the best of the new books, now so largely offered, while his collection of standard and current literature grew rapidly. Dr. Macdonald was of great service in the study of the plans and construction of the new buildings for the Albany Hospital. He performed most of his surgical operations there and aided greatly in the administration of the plant. His early association with me was at a time when the overflow work of the office, out of town and night calls were getting beyond my ability to care for. In answering these he uniformly gave good satisfaction, retaining the confidence of the family physician and friends of the patient. This enabled him to develop a large consultation practice and his physical strength seemed equal to it. He was first to conceive and to act in the organization of the South End Dispensary. His powers of organization were excellent, and his executive ability—although occasionally blended with procrastination,—consistent and firm. He has done much to advance the campaign against tuberculosis and to secure an appropriation for the sanitarium located at Raybrook. Dr. Macdonald had an intimate acquaintance with the leading men in the Legislature of this State and his advice on medical matters was often sought. As a Fellow of the American

Surgical Association he was greatly respected and his work there, and in other national associations, always appreciated. He will, indeed, be missed by his fellow associates in the various organizations and institutions with which he was connected. As a member of the State Board of Medical Examiners, in the department of surgery, he was earnest, his great desire being to do full justice to the applicant to be licensed, yet to protect the State and public to the utmost. Dr. Macdonald, in his life, has left us an example of great industry, and for a man of his physique it was wonderful the amount of work he was able to perform. His connection with the college has always been a wholesome one. At times he was very firm with the students, yet labored faithfully to present the subjects upon which he was lecturing with great conscientiousness, and spared no pains in making his lectures and clinics interesting and profitable."

The Secretary then read the following letter from Dr. Willis G. Tucker, Registrar of the College:

"Dr. Erastus Corning, *Secretary Medicol Society of the County of Albany:*

"My dear Doctor—I greatly regret that it will be impossible for me to attend the meeting of the Society this afternoon. In the death of Dr. Macdonald our Society has suffered a very great loss. He contributed so largely to the advances of his profession, and to promoting the reputation of Albany as a medical center, and to the furthering of charitable and philanthropic work in our city, that his loss will be deeply felt and sincerely mourned. Whatever we may do to honor his memory and demonstrate the esteem in which he was held by his professional brethren, we ought, as a Society to do, and so my regret is the greater that I cannot take part in our meeting to-day.

"Very sincerely yours,

"(Signed) Willis G. Tucker."

Dr. Leo H. Neuman said: "Mr. President: It is with a feeling of deep personal loss in the removal of this great whole-souled personality, that I move that the chair appoint a committee to draft suitable resolutions on the death of Dr. Macdonald."

The motion was passed, and Dr. Gutmann named as members of the committee: Dr. Leo H. Neuman, Dr. Andrew MacFarlane, Dr. Arthur J. Bedell, Dr. J. L. Archambault, Chairman; Dr. H. E. Lomax and Dr. J. F. Rooney.

Dr. MacFarlane said: "Mr. President: If I may offer an amendment to Dr. Neuman's motion, I would suggest that, in view of the unusual esteem in which Dr. Macdonald was held by all, the committee be empowered not merely to draft the usual resolutions, but also to take any action that may seem suitable to them. Such action might take the form of a special memorial meeting, where an opportunity might be afforded to those outside of the medical profession, as well as to the members of our Society, to testify to their affection and appreciation of Dr. Macdonald.

"Dr. Macdonald and I were classmates, and though after graduation our paths diverged, his leaning being toward surgery while mine was toward

medicine, yet our friendship endured. Dr. Macdonald started in practice at what I may call a psychological moment. It was at the time when modern surgery was beginning and he grasped the full significance of the future. So fully alive was he to the advances that were then being made that I think I may fairly say, recognizing all that other men have done, that surgery in this section owes more to him than to any other one man.

"Dr. Macdonald was essentially a straightforward man, a man of no frills. He seemed to reach the kernel of truth in men and situations instinctively. He was, in the best sense of the work, no respecter of persons, pauper or millionaire, fee or no fee, his thought was first and foremost, 'What can I do to relieve suffering?' When we measure the man by what he gave to the world we find that he occupied a very high place. Consider that he came to Albany as a poor country boy, and in spite of his physical handicaps, achieved so great a measure of success before the meridian of life was reached. Nor were his interests limited to the field of surgery—his concern was for the welfare of mankind. What effort it must have cost him when once a month he took the sleeper from here to Raybrook, spent the day in hard work and returned on a sleeper that night! A story, eminently characteristic of the man is told of one of those trips to Raybrook. While discussing the questions of building and administration, it was brought to his notice that a contractor had placed imperfect slating on the roof. Turning to the contractor Dr. Macdonald said: 'Is this true?' The man admitted that he had not been upon the roof to investigate. 'Bring me a ladder,' said Dr. Macdonald, 'and I will see for myself!' This was done, and at real peril to his life he climbed to the roof and made his inspection in person.

"His wonderful influence was everywhere felt, and he was recognized by men in all walks of life as a forceful efficient big man. Without guile, honest and straightforward he was led at times into showing his worst side to the public, but to his friends and patients the good ever predominated.

"We are stunned by the suddenness of his death. A short week ago he was in full vigor of his maturity and to-day lies dead. My personal feeling is one of deep and I must say of selfish grief, for though he did much and good work we need him sorely. Medical Albany, with the enlarged opportunities that seem to be opening to the Medical College, needs him now as never before. His loss is indeed great, but we must carry on the work that is ours and that would have been his, undemoralized by his absence, but stimulated to greater cohesion and effort in the attempt to make up for our bereavement."

Dr. NEUMAN signified his willingness to accept Dr. MacFarlane's suggestion, and Dr. Gutmann announced that the committee would stand as appointed for the present, to be added to at a later date if need arose. He also announced that Dr. Macdonald would be buried from his home in Cobleskill on Monday at 2 P. M. and that a number of Albany physicians would leave on the 9.30 A. M. train to attend the services.

Dr. FREDERIC C. CURTIS then said: "At a meeting of this nature everyone wishes to contribute something, each one instinctively feels the desire

to honor the memory of a friend and fellow worker. And yet we find ourselves at a loss, not for something to say, but which of the many thoughts should be given expression. Dr. Macdonald was a man so conspicuous that he honored our Society by his presence. He was a man, who, if I may paraphrase the old saying, wore his mind on his sleeve. He spoke his thoughts without any attempt at ornamentation. We all recognize our own foibles when in telling of our professional experiences we do it in such a way as at least to reflect no discredit on ourselves. Not so Dr. Macdonald. He spoke the facts frankly and with no coloring.

"It is hard to realize that he achieved so much in so short a time. We had come to think of him as a man who had arrived, who had succeeded, who had won, and yet twenty years covers his life work with us. I can remember when he first started in practice, his office was situated on Hudson avenue below Pearl street. Meeting him one night near his office we had a talk in which he disclosed to me some of his hopes for the future. He was even then feeling the impulse of higher powers and larger abilities. As he talked almost soliloquizing, the characteristics that we have all recognized in his later years, were then outlined. The hatred of petty things, the ambition for wide usefulness, the independence, the desire for study, all were there to be developed as we have seen them. Perhaps the one characteristic that has impressed me most strongly through my years of acquaintance with him, has been his extraordinary acquisitiveness. This as a natural gift, developed by untiring application and fed by wide and wise reading, has done much to give him the power and knowledge we all felt were in him."

Dr. E. A. Bartlett: "I cannot let this opportunity pass without expressing my admiration for Dr. Macdonald. Each one of us here to-day is filled with regret that a life so large in opportunity, so rich in achievement has been cut off. It is my belief that we are placed in the world each man for a purpose, and that no one is removed until he shall have accomplished that purpose. In contemplating his loss, I find in this my only consolation.

"The good that men do lives after them. No one could have known Dr. Macdonald without recognizing his goodness. Since his death more than a dozen people have said to me the same thing. 'Dr. Macdonald was a good man—he was good to the poor.' His patients knew his kindness, his friends knew his helpfulness, his students knew his sympathy and his colleagues knew his skill. He was an honor to the county and to the State, but to us he was an inspiration."

Dr. Powell, of Coeymans: "One thing that has not been mentioned here to-day is the confidence with which Dr. Macdonald inspired his patients. I can bear personal testimony to this. I had seen him operate many times, and when the time came for me to face an operation for appendicitis, I took my place on the operating table as calmly as does one who folds around him the covers of his couch and composes himself to dreamless sleep."

The members of the Society then formed in line and proceeded to the First Presbyterian Church where the services were held.

John H. Gutmann, *President.*

Erastus Corning, *Secretary.*

Public Health

Edited by Joseph D. Craig, M. D.
Department of Health, Albany, N. Y.

Abstract of Vital Statistics, May 1911.

Deaths.

Consumption	25
Typhoid fever	0
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	0
Grippe	1
Diarrhoel diseases	4
Pneumonia	7
Broncho-pneumonia	2
Bright's disease	18
Apoplexy	9
Cancer	11
Accidents and violence	4
Deaths over 70 years	26
Deaths under one year	15
Total deaths	155
Death rate	18.24
Death rate less non-residents	15.30

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	11	9
Child's Hospital	1	0
County House	0	6
Homeopathic Hospital	1	6
Hospital for Incurables	3	0
Little Sisters of the Poor	3	0
Home for the Aged	0	0
Public places	1	1
Sacred Heart Convent	1	0
St. Margaret's House	0	0
St. Peter's Hospital	4	3
Austin Maternity Hospital	1	0
Albany Hospital, Tuberculosis Pavilion	5	0
Confederation of Labor	1	0
Totals	32	25
Births		155
Still births		4

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation, there were three hundred fifty-two inspections made of which one hundred thirty-nine were of old houses and one hundred thirteen of new houses. There were forty-nine iron drains laid, fifty-two connections to street sewers, fifty-four tile drains, two urinals, forty-four cesspools, sixty-three wash basins, eighty-one sinks, fifty-eight bath tubs, sixty-seven washtrays, and one hundred tank closets. There were two hundred sixty-three permits issued of which two hundred twelve were for plumbing and fifty-one for building purposes. There were seventy-two plans submitted, of which ten were for old buildings and sixty-two for new buildings. Twenty-nine houses were tested, one with blue or red, one with peppermint and twenty-seven water tests. Twenty-seven houses were examined on complaint and seventy-four were re-examined. Thirteen complaints were found to be valid and fourteen without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	2
Scarlet fever	9
Diphtheria and croup	10
Chickenpox	6
Measles	17
Whooping-cough	0
Consumption	31
Total	75

Contagious Disease in Relation to Public Schools.

	D.	S.F
Public School No. 4	1	1
Public School No. 5	1	...
Public School No. 10	1	....
Public School No. 24	....	1
High School	....	1
St. Joseph's Academy	....	1
St. Patrick's School	2	....

Number of days quarantine for diphtheria:
Longest..... 24 Shortest..... 14 Average..... 18 2/4

Number of days quarantine for scarlet fever:
Longest..... 37 Shortest..... 3 Average..... 24 3/8

Fumigations:
Houses..... 58 Rooms..... 148

Cases of diphtheria reported	10
Cases of dphtheria in which antitoxin was used	10
Deaths after use of antitoxin	0

Bender Laboratory Report on Tuberculosis.

Positive	22
Negative	33
Failed	0
Total	55

Tuberculosis.

Living cases on record May 1, 1911		342
Reported during May:		
By telephone	0	
By Bender	0	
By card	27	
	27	
Dead cases by certificate	8	
		35
		377
Dead cases previously reported	17	
Dead cases not previously reported	8	
Duplicates	2	
Recovered	0	
Removed	2	
Unaccounted for	0	
		29
Living cases on record June 1, 1911		348
Total tuberculosis death certificates filed during May, 1911		25
Out of town cases dying in Albany:		
Albany Hospital	0	
County Hospital	1	
		1
Net city tuberculosis deaths		24

Bureau of Pathology.

Bender Laboratory Report on Diphtheria.

Initial positive	11
Initial negative	73
Release positive	5
Release negative	13
Failed	28
Total	130
Test of sputum for tuberculosis:	
Initial positive	24
Initial negative	37

BUREAU OF MARKETS AND MILK.

Market reinspections	121
Public market inspections	23
Fish market inspections	5
Fish peddler inspections	4
Pork packing houses inspected	2
Slaughter houses inspected	4
Hide houses inspected	3
Rendering establishments inspected	3
Milk wagons in clean condition	12
Butter fats below 3%	0
Butter fats from 3 to 3.5%	1
Butter fats from 3.5 to 4%	11
Butter fats over 4%	0
Solids under 12%	0
Solids from 12 to 12.5%	2
Solids from 12.5 to 13%	7
Solids over 13%	3

MISCELLANEOUS.

Mercantile certificates issued to children	18
Factory certificates issued to children	9
Children's birth records on file	27
Number of written complaints of nuisances	81
Privy vaults	10
Closets	9
Plumbing	15
Other miscellaneous complaints	47
Cases assigned to health physicians	83
Number of calls made	190

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Surgical After-Treatment. By L. R. G. CRANDON, A. M., M. D., Assistant in Surgery at Harvard Medical School. Octavo of 803 pages, with 265 original illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $6 net; half morocco, $7.50 net.

The suggestions which are contained in this volume for the after-treatment of surgical cases are those in general, which it is safe to say, are approved and made use of in all important surgical clinics. The author states that the volume is intended for the use of two classes of practitioners; house surgeons in hospitals and general practitioners in communities which are not surgical centers. Inasmuch as the after care of operative cases is frequently left in charge of those not familiar with surgical routine, the book should fill an important

need. The text covers a wide range of subjects. The general management of cases, of shock, haemorrhage and of all the more serious complications are discussed in detail, as well as the care of wounds and the treatment of special surgical conditions. There is an excellent chapter on vaccine therapy prepared by Dr. George P. Sanborn. The book should serve as a valuable guide to those who are intrusted with the care of patients after operation. G. E. B.

Gonorrhea in the Male. A Practical Guide to its Treatment. By Abr. L. Wolbarst, M. D., New York. Published by the International Journal of Surgery Co., New York, 1911.

This little volume is made up of a revised and elaborated series of articles on gonorrhea in the malee, which appeared some months ago in the *International Journal of Surgery*. The purpose of the book is thus set forth by the author in the preface: "He believes that considerable damage is being done by the prevalent methods of treating gonorrhea, particularly in the respect of our remedies being too strong, and being used with a vigor that is far too heroic for the delicate and inflamed tisues to bear with impunity. If this work will be accepted as a plea for greater gentleness and conservatism in our therapy, not only as to drugs we employ, but also as to the instruments we use, as well, it will have accomplished all that the author could have hoped for."

As a helpful guide to the general practitioner into whose hands most of the cases of gonorrhea fall, this practical little book should be very welcome. G. E. B.

Diagnostic and Therapeutic Technic. By Albert S. Morrow, M. D., Adjunct Professor of Surgery, New York Polyclinic. Octavo of 850 pages, with 815 original line drawings. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5 net.

In this volume the writer has brought together and arranged in a manner easily accessible for reference, a large number of procedures employed in diagnosis and treatment. The work covers a very wide field and some of the methods which are detailed belong essentially to the domain of the specialist, but the majority are the every day practical procedures which the hospital interne or the general practitioner may at any time be called upon to perform.

The plan of the work comprises, first, a description of certain general diagnostic and therapeutic methods, and, second, a description of those measures employed in the diagnosis and treatment of diseases affecting special regions and organs of the body. Of special value will be found the description of the newer methods of procedure both in diagnosis and treatment.

So far as I am aware there is no other single volume to which one may turn for information along these lines and therefore this book of 775 pages will be found of real value. G. E. B.

The Practice of Surgery. By JAMES G. MUMFORD, M. D., Instructor in Surgery in the Harvard Medical School. Octavo of 1,015 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company, 1910. Cloth $7 net; half morocco, $8.50 net.

In this volume of 1,015 pages the author has furnished us with a clear and concise treatise on The Practice of Surgery, and has purposely omitted any lengthy discussion of theories, except incidentally. In this respect the volume is unique. He has presented in a very attractive form an account of the practice of surgery, as seen at the bedside, in the accident room, and in the operating room. A feature which particularly commends the work is the presentation of the surgical diseases in their order of interest, importance and frequency. The rare conditions have either been omitted or given a limited amount of space. The subjects are arranged in seven parts. Part I deals with the diseases of the abdomen; part II the female organs of generation; part III the genito-urinary organs; part IV the chest; part V the face and neck; part VI the head and spine; and part VII minor surgery, diseases of structure.

The book is printed on excellent paper and is attractively bound. There are 682 illustrations in the text, most of them very descriptive. The book should prove of distinct value both to undergraduates and practitioners. G. E. B.

Dawn of the Fourth Era in Surgery and Other Short Articles. By ROBERT T. MORRIS, M. D., Professor of Surgery, New York Post Graduate Medical School and Hospital. 12mo of 145 pages. Philadelphia and London: W. B. Saunders Company, 1910. Artistically bound. $1.25 net.

This small volume of 144 pages comprises a number of short articles, all of which were published originally in medical journals. The writings of Dr. Morris are so familiar to the profession that this collection of papers and addresses needs no words of commendation. G. E. B.

Plaster of Paris and How to Use It. By MARTIN W. WARE, M. D., N. Y., Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor of Surgery in the New York Post Graduate School. Second edition revised and enlarged. Price, cloth, square form $1.25. De Luxe leather $2.50. Surgery Publishing Co., New York.

The exhaustion of the first edition and the persistent demand for this helpful book were the incentives for this second edition, which has been completely rewritten and enlarged and thus its scope of usefulness has been greatly extended. Complete new drawings and marginal side notes in red embellish the book and ninety illustrations are used to more clearly put up to the eye of the reader the intent of its subject matter.

Such information as History, Materials, Manufacture of Bandages, Storage, Bandages of Commerce, Calot Plaster Bandages, The Immediate Preparation of Bandages, Application and Precaution, Removal of Bandages, etc., are all given under the contents of The Plaster of Paris Bandages. Then follows such chapters as Application of the Plaster of Paris Bandage to Individual Fracture, Fractures of the Upper Extremity, Fractures of the Lower Extremity, Moulded Plaster of Paris splints, Plaster of Paris in Orthopedic Surgery, etc., and all presented in such a comprehensive manner as to make this book of particular service to every doctor. The mechanical features of the book are decidedly striking.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, the Specialties, and other Topics of Interest to Students and Practitioners, by leading members of the Medical Profession throughout the World. Edited by HENRY W. CATTELL, A. M., M. D. Philadelphia, U. S. A. Vol. III. Twentieth Series. 1910. J. B. Lippincott Company, Philadelphia and London.

The articles contained in this volume of the *International Clinics* pertain largely to the work of the general practitioner and general surgeon rather than to the specialist. Among these one of the most interesting and suggestive is "Reports on Autoserotherapy," by C. K. Austin, Paris, and pertains to the idea of "treating different morbid conditions, accompanied by serous effusion into one of the natural cavities of the body, by the administration to the patient of his own serum in hypodermic injections." The technique is simple and clearly described, no laboratory assistance being necessary, the dose is small and infrequent. The principal objective signs that follow the use of this method are three in number: a thermic reaction varying from one to two degrees; rapid and final absorption of the effusion; free diuresis.

Other articles worthy of mention are "Demonstration of the use of Unna's Paste in the Treatment of Leg Ulcer," by Dr. B. A. Thomas. The writer gives four reasons for its use: Economy of gauze, bandages, adhesive plaster, etc.; economy of patient's time by infrequent visits to the dispensary; economy of the physicians' time for the same reason; shortens convalescence. The formula for this paste consists of four parts pure gelatin dissolved in ten parts of water, to which are added ten parts of glycerine and four parts of zinc oxide.

"The Present Status of Bacterin Therapy," by B. A. Thomas, is a comprehensive and timely one giving a review of the entire subject down to the present hour in clear, simple language. "Treatment of Fracture of the Hip in the New-born," by P. Samuel Stout, describes and illustrates an apparatus improvised for continuous extension of the thigh which proved successful after several attempts with plaster of paris had failed.

H. D. C.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, the Specialties and Other Topics of Interest to Students and Practitioners, by leading members of the Medical Profession Throughout the World. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia, U. S. A. Vol. IV. Twentieth Series, 1910. J. B. Lippincott Company, Philadelphia and London.

This volume places special emphasis on the neurological department. We would mention two articles under this heading as especially worthy of consideration, one by J. Victor Heberman, based on a Clinical Lecture held in the department of neurology at the College of Physicians and Surgeons, March, 1910, entitled Hypnosis, its Psychological Interpretation and its Practical use in the Diagnosis and Treatment of Disease. It deals with the subject in a very complete and practical manner and is worthy of a careful perusal by all interested in this branch of therapeutics.

The other communication is on the subject of "Traumatic Neuroses" by Arthur Dean Bevan, of Chicago, and is of particular interest to the railroad surgeon. Dr. Bevan in the eighties had a wide experience with western railroad accidents and illustrates his point by actual cases which numbered into the hundreds.

Articles of more general interest to the entire profession are, Ehrlich's New Preparation, Arsenobenzal ("606") in the Treatment of Syphilis by the editor, Henry W. Cattell, well illustrated, concise and practical.

Improved Oesophageal Instruments, by J. J. Rectenwald, with illustrations of several of the author's improvised instruments thought out on the spur of the moment as prompted by emergency. Finally a subject which comes home to all, Physicians' Fees Down the Ages, by James J. Walsh, of the Fordham University School of Medicine. The author concluded his essay by saying, "Just one thing this review of fees for some five thousand years makes clear; it is, that at all times physicians have received professional compensation, that is, a reward for services done, not according to the time or effort required but the value of the benefit conferred on their patients. As a rule patients have been willing to pay not only this but to add honors and distinctions of other kinds."

H. D. C.

Diseases of the Stomach and Intestines. By BOARDMAN REED, M. D. Illustrated, Third Edition, thoroughly revised and largely rewritten. New York. E. B. Treat and Company, 1911.

This volume of 1,037 pages is intended as a clinical guide to the diagnosis and treatment of diseases of the stomach and intestines. It covers the field very thoroughly, and embodies descriptions of the methods of chemical, bacteriological and clinical examinations as well as the medicinal and dietetic management of the diseases in question. In the present, third edition, the author has thoroughly revised and brought up to date

the subject matter. A new chapter has been added on arteriosclerosis, in which its relations with gastro-intestinal affections have been discussed in the light of our present knowledge, including reports of the author's observations on blood pressure. G. E. B.

GYNECOLOGY

Edited by John A. Sampson, M. D.

Intraperitoneal Hemorrhage in Cases of Fibromyomata of the Uterus.
ARTHUR J. WALLACE. *The Journal of Obstetrics and Gynecology of the British Empire, December,* 1910.

The author reports a case of his own, in which a woman aged thirty-one years had a severe attack of abdominal pain with nausea and vomiting. A provisional diagnosis of ovarian cyst with twisting of the pedicle was made. At operation, a myoma arising from the posterior wall of the uterus was found, and the peritoneal cavity was partially filled with blood. The bleeding came from a varix communicating with a large superficial vein near the surface of the tumor. The tumor was removed and the patient recovered.

In 1866 Matthew Duncan reported a case in which death resulted from such a condition and mentioned a similar case of Cruveilhier.

The writer has found sixteen authentic reported cases (including his own) in which the diagnosis was confirmed by operation or autopsy. In two of these cases, the precise source of the bleeding from the myoma is not stated; in seven it was due to an opening in the wall of a vein; in two torsion of the pedicle of a pedunculated myoma had occurred causing the rupture of a superficial vein; in two others a varicosity was situated over a vein and this was torn; in other two cases the hemorrhage resulted from the laceration of a solid myoma and in one it occurred from pressure ulceration.

The diagnosis depends on finding a myoma with the symptoms and signs of intraperitoneal bleeding. In every case other possible causes of intraperitoneal bleeding should be considered and especially ectopic gestation.

He divides the cases in three classes.

(1) The acute, with the loss of a large amount of blood and followed by severe peritoneal crisis and general collapse.

(2) The subacute or chronic, in which small or very moderate amounts of blood are lost at intervals with mild signs of peritoneal disturbance and advancing anæmia.

(3) The cases in which the bleeding occurs just before the operation due to struggling during the earlier stages of the anæsthesia.

He believes that the treatment should be immediate surgical interference.

Tuberculosis and Menstruation.
DAVID I. MACHT. *The American Journal of the Medical Sciences, December,* 1910.

He discusses these subjects from two points of view; (1) the influence

of pulmonary tuberculosis on the menstrual function; and (2) the influence of the menstrual function on the course of pulmonary tuberculosis.

The Influence of Tuberculosis on Menstruation.

The writer studied the records of 600 female patients, between the ages of twelve and forty-five years, who had been treated in the Phipps Dispensary of the Johns Hopkins Hospital; 51.6 per cent., that is, over one-half, gave a history of no change in menstruation; 27.3 per cent., or over one-fourth, gave a history of amenorrhœa, or of a more or less scanty flow; 4.6 per cent. complained of a more or less profuse flow than ordinarily present, without any history of uterine or adnexal disease. In the remainder irregularities in menstruation could be accounted for by other conditions than tuberculosis.

In studying the ages of these patients, he found that it was as rare to find the menstruation suppressed in patients of thirty-five years or over as it was to find it present in patients below twenty years. ; 71.5 per cent. of the patients with amenorrhœa were below thirty years of age and nearly one-half of them were in the first stage of tuberculosis. Amenorrhœa is therefore a sign of considerable diagnostic importance and, when occurring in young women, should lead one to suspect pulmonary tuberculosis.

To recapitulate tuberculous patients may menstruate regularly to the end especially after the age of thirty-five years. Some, especially young, women, may have amenorrhœa, in others menorrhagia may be present and the latter may be followed by amenorrhœa. Certain cases of dysmenorrhœa are of tuberculous origin and are relieved by the tuberculin treatment.

The effect of the favorable treatment of the tuberculous condition is to restore a normal type of menstruation.

The Influence of Menstruation on the Tuberculosis Process.

He emphasizes that menstruation is not merely an uterine flow but the local phenomena are accompanied by constitutional changes which have a rhythmic periodic character. These constitutional changes play an important part on disease in general and tuberculosis in particular. The effect of these manifest themselves in various ways. There is often an aggravation of all symptoms and an accentuation of the physical signs of tuberculosis. The effects of ovulation may continue after the menstrual flow has been suppressed. Periodic variations in temperature are very common, occurring in probably 50 per cent. or more of all cases, and are of diagnostic and prognostic value, these rises in temperature may be (a) premenstrual, (b) menstrual, (c) postmenstrual, (d) intermenstrual. Periodic hemoptysis and other hemorrhages in tuberculous patients are more common than generally assumed. These may occur at the time of the menstrual flow or take its place when the latter is absent. True vicarious menstruation does occur, but is exceedingly rare, so that in most cases of apparent vicarious hemoptysis a tuberculosis lesion should be suspected.

The evil effects of the menstrual process on the patient's constitution can be minimized by proper treatment and the author believes that tuberculin should not be administered at the time of menstruation.

ALBANY
MEDICAL ANNALS

Original Communications

THE CHEMISTRY OF METABOLISM IN ITS RELATION TO OCULAR DISEASE.*

BY S. LEWIS ZIEGLER, A. M., M. D.,

Attending Surgeon, Wills Eye Hospital; Chief Ophthalmic Surgeon, St. Joseph's Hospital, Philadelphia.

Metabolism in health and metabolism in disease are two diverse problems which demand our closest study. Both are controlled by that biochemistry which is rapidly becoming the pathology of the future. The vital processes which are constantly occurring in the tissues and fluids of the body are deeply influenced by these chemical changes and by the toxic products that create a perversion of physiologic function. We have long known that bacteria were dangerous and destructive, but it has remained for chemical pathology to show us that the toxins which they engender are even more pathogenic. The influence of these chemical biproducts on the ocular structures is manifested chiefly as a localized hyperleucocytosis, of a toxic character, which falls, therefore, under the generic classification of chemotaxis. As this chemotactic process bears such an important relation to our subject I shall take the liberty of quoting the views of Da Costa[1] on this interesting problem:—

"The exact manner in which pathologic leucocytosis arises is a question about which many conflicting views are held by different authorities, but the general trend of opinion at the present time attributes the increase chiefly to the influence of chemotaxis. According to the chemotactic theory of leucocytosis, the presence in the blood of certain chemical substances, produced by infective principles, is capable of exerting both an attractive and a

*This paper, in its revised form, represents the substance of two addresses, one before the Albany County Medical Society, Nov. 22, 1910, and the other before the Philadelphia County Medical Society, Jan. 10, 1911.

[1]DA COSTA. "Clinical Hematology," 1905, p. 237.

repellent influence upon the ameboid leucocytes. If the collections of cells are attracted by such substances, the phenomenon is known as *positive chemotaxis,* but if, on the other hand, they are repelled, the condition is termed *negative chemotaxis.* This massing and repulsion of the leucocytes may be caused by various agents—by thermal and mechanical irritants, by bits of necrotic tissue which have gained entrance to the circulation, and especially by the presence in the blood of bacteria or of their metabolic products."

The perverted metabolism of the system, in so far as the eyes are concerned, is influenced by many complex factors. The endogenous causes are most prominent. Disturbed physiologic function is directly responsible for much of the pathogenesis. Lymphatic stasis, lymphatic insufficiency, and perverted lymphatic secretion are extremely important elements. Suboxidation and changed function due to disturbances of the ductless glands are powerful factors in this problem. Auto-intoxication arising from indigestion and constipation plays a prominent rôle. La grippe, the exanthemata, and in fact all febrile disturbances, are accompanied by an overproduction of perverted secretions that may prove chemically irritating to the delicate tissues of the eye and thus produce optic neuritis or paresis of the extraocular muscles. Diseases of the liver or kidney are especially liable to cause a precipitation of toxins that may prove injurious to the eye. Of a similar character are the perversions arising during pregnancy and the fugacious disturbances of menstruation. Excessive emotional disturbances, such as fear, grief, anger or other unusual excitement, may cause a perversion of metabolism by interfering with the internal secretions and by lowering the systemic oxidation. Post-operative mania is a good example of such a perversion. Similar effects may be produced by sexual excesses, by the nervous strain incident to exhausting mental application, by worry, by severe pain and by shock. High blood pressure often becomes a potent factor in originating localized lesions of the eye.

The ectogenous causes of disturbed metabolism arise chiefly from the ingestion of foods and drugs that are chemically irritating. Certain individuals may exhibit an idiosyncrasy against these. as for example such foods as strawberries, lobsters, and mushrooms, or such drugs as atropin, quinine, or morphine.

Knies[2] believes that a pronounced toxemia may result from ptomains and toxalbumin when shellfish are eaten, even though no evidence of decomposition is present. He asserts that certain of these toxic products of malassimilation have a specific effect upon the eye; muscarin and neurin producing accommodative spasm and myosis, while tyrotoxin causes paralysis of accommodation and mydriasis. Of similar selective character are the toxic amblyopias following the ingestion of lead, quinine, methyl alcohol, tobacco and coffee. When these are taken in small quantities their corrosive action on the neuro-retinal fibers is insidious and partial, but when larger amounts are consumed the destruction may become sudden and complete. While alcoholic excesses have an ectogenous origin, their ultimate manifestations of perverted secretion and subkatabolism chiefly resemble those of the endogenous toxins.

In addition to these there are many extraneous physical factors that bear an intimate relation to the etiology of these disturbances; exposure to extremes of heat and cold, high relative humidity, low barometric pressure, persistent east winds, drafts on the body or directly on the eye, deficiency of ozone in the atmosphere, inhalation of air containing an excess of carbon dioxide and disturbed electrical conditions, all of which tend to upset the metabolism.

The human organism is, therefore, a vast physico-chemical laboratory in which the most delicate and complex chemical reactions are constantly taking place; and this greater laboratory, as it were, includes many lesser laboratories which though more or less sequestrated and of minor importance are nevertheless actively at work. The eye is the best organ of the body for the careful study of these manifestations because it is an end-organ and because its pathologic processes are more open to inspection. All of the ocular structures may be affected by these metabolic disturbances; the uveal tract most frequently, the retina and optic nerve less often, the cornea and sclera infrequently and the muscular apparatus occasionally.

As we approach the question of what is the chief physiologic factor in perverted metabolism we are constrained to answer, suboxidation. When the oxidizing power of the blood is normal, when the ductless glands are actively furnishing their quota of internal secretion to stimulate this function, when the individual

[2]Knies. "Diseases of the Eye in Relation to General Diseases," 1895, p. 358.

is in full possession of unimpeded respiratory powers, and when the air which he breathes is pure, there is no pabulum on which to breed disease. But when the oxygen intake is limited by respiratory obstruction, when the air is drawn from poorly ventilated rooms, and when the habits are sedentary, then every grain of coffee becomes a drachm of xanthin poison, every ounce of food becomes a pound of toxic proteid and every germ of disease becomes a giant of destruction.

The origin of suboxidation is of so complex a character that it is somewhat difficult to outline its various ramifications. Respiratory obstruction is probably the most important etiologic factor; it matters not whether this lies in enlarged tonsils, in adenoid vegetations, in hypertrophied turbinates or in the intranasal congestions that accompany mouth breathing. They are all foes worthy of our steel. But while we are studying these problems the collateral problems of perverted secretions in the nose and accessory sinuses, of disturbed digestion and of intestinal toxemia are forced upon us as a part of the pathogenic whole that requires our most careful consideration.

Nothing can illustrate the relation of suboxidation to the perverted metabolism of ocular disease more characteristically than the clinical picture of corneal ulcer in the child, which is familiar to us all. The local ulcer is the smallest part of the symptom-complex. It is the sequel rather than the cause. Aside from the lacrimation, photophobia and blepharospasm there is but little evidence that the eye is involved. On the other hand, the nasal obstruction is pronounced. The secretions exuding from the nose are viscid, acrid and chemically irritating, often hanging down on the lip and causing eczematous excoriation. The nasal mucosa is so sensitive that a slight draft on the body or the raising of an eyelid will cause a reflex fit of sneezing. The general symptoms, moreover, show the most typical effects of lowered oxidation. The skin of the whole body is ashy-pale, relaxed and leaky, being bathed in perspiration, while the hair is matted together by the great excess of moisture transuding from the scalp. In winter the perspiration and body chilling encourage overdressing or "bundling up" which only adds to the extreme sensitiveness already present.

The error of suboxidation in these cases can be best corrected by the restoration of free nasal breathing through local

applications to the nose, and the withdrawal from the diet of those articles which demand a large amount of oxygen for their assimilation, such as tea, coffee, cakes and candy, coffee being the worst offender because of its high xanthin content, while the carbohydrates are a close second. When this has been accomplished the ocular lesion will promptly heal without further treatment.

Enlargement of the tonsils has been referred to as a pathogenic factor in suboxidation and its sequelae. So far as we know the tonsil has but little internal secretion that might become perverted. Occasionally it accepts and transmits some infectious process. As a rule, however, the chief disturbing factor lies in its obstruction to breathing. The exact etiologic relation to the resultant lesion cannot always be explained. I can recall an anomalous case of marked papilledema in a child, that was persistent for over a year. During that period it was examined by many competent surgeons.[3] The condition was suggestive of brain tumor, but there were no focal symptoms. The most careful examination revealed absolutely no systemic lesion except enlarged tonsils. It was difficult to believe that edema of the nervehead could arise from respiratory obstruction. The presence of a certain degree of mental hebetude, however, recalled to my mind a series of mental defectives that were treated by the late Dr. Pepper who believed that this subnormal mentality was the result of suboxidation and proved it by having them relieved by tonsillectomy. The tonsils in my case were accordingly removed, following which the mental dullness cleared up and the edema of the optic nervehead promptly subsided. This case fortunately occurred several years ago. To-day we would probably plan to relieve such a condition by a decompression operation.

This observation of tonsillar interference with systemic oxidation was amply confirmed in a study I made last year of "Symmetrical Lymphomata of the Lacrimal and Salivary Glands,"[4] otherwise known as Mikulicz's disease. The etiologic question at issue was whether this chronic, non-inflammatory, glandular hypertrophy was incited by suboxidation associated with toxemia or whether it was the result of a bacterial invasion. I shall

[3] This case is referred to by Fox in his "Practical Treatise on Ophthalmology," 1910, p. 553.

[4] Ziegler. Trans Amn. Ophthal. Soc., 1909, p. 222, and N. Y. Med. Jour., Dec. 11, 1909, p. 1159.

quote what I then said in regard to the etiology of this rare condition because it is germane to several phases of our subject:—

"The etiologic factors which most writers have recorded in these cases are: 1, Infection from buccal or conjunctival bacteria; 2, glandular irritation from some toxic agent in the blood or lymph stream causing lymphatic hyperplasia; and 3, some idiopathic origin. No specific bacteria have been demonstrated in these cases, the microscope usually revealing lymph cell infiltration of the interstitial tissue, which Mikulicz considers wholly responsible for the enlargement of the gland. Although bacterial infection is usually accompanied by an acute inflammatory process, no inflammation has been noted in these cases. Granting the possibility of infection, whence would it originate—from the eye, the mouth, or the nose? It has been stated that trachoma of the fornix has caused lacrimal adenitis (Baquis).[5] By analogy it is deduced that buccal bacteria might be transmitted through Steno's duct and thus infect the parotid (Hanau).[6] I think it is much more probable, however, that the source of this invasion is nasal. and the means of transmission through the lymphatic capillaries. It certainly seems possible that a steady stream of toxic, bacteria laden secretions could be absorbed from the accessory sinuses (chiefly antrum) and carried directly to these contiguous glands. If, however, the origin is an infection from neighboring parts, why should the course of this disease be so sluggish and the condition remain unchanged for months and even years? *On the other hand, may this not be a chronic hyperleucocytosis strictly localized to these enlarged lymph glands?*

"How can we explain the retrogression of these glandular swellings during the course of an acute intercurrent disease, and their recrudescence in some cases soon after convalescence? Kümmel[7] has reported such an occurrence during pneumonia, Mikulicz[8] during appendicitis, Haeckel[9] through a severe enteritis, Delens[10] after an attack of cholera, Zirm[11] during an attack of

[5]Baquis. Annali di ottalmol., 1894, p. 227.
[6]Hanau. Ziegler's Beiträge path. Anat., 1889, IV, p. 487.
[7]Kummel. Mitteil. a d. Grenzgeb. d. Med. u. Chir., 1897, ii, p. 111.
[8]Mikulicz. Berliner klin. Woch., 1888, p. 759.
[9]Haeckel. Lagenbeck's Archiv., 1903, LXIX, p. 191.
[10]Delens. Archiv. d'opht., 1887, VI, p. 154.
[11]Zirm. Wiener med. Presse, 1891, p. 1954, und Deutschmann's Beiträge, 1893, IV, p. 314.

erysipelas which followed partial excision of the gland, Quincke[12] from a similar cause, and Osler[13] after an attack of acute pleurisy with effusion. The query naturally arises, *does the general disease create a systemic polymorphonuclear leucocytosis that temporarily overwhelms and obliterates the localized hyperleucocytosis in the affected glands?*

"There still remains for our consideration the view that some agent or chemical irritant in the lymph stream might cause an occlusion of the efferent lymph channel of the gland, and thus encourage leucocytic engorgement. This could occur in one of two ways: 1, from some perversion of glandular function resulting in the secretion of irritating materials and their retention within the gland substance, and 2, from irritation of the gland by some toxic fluid which is absorbed and transmitted from neighboring parts. Both of these processes may be properly included under the general term of chemotaxis or toxic leucocytosis.

"The first proposition has a typical exemplification in the case McHardy[14] has placed on record, in which sudden enlargement of the lacrimal glands resulted from excessive indulgence in grief. Lagrange[15] has reported a case of temporary enlargement of these glands due to the perverted metabolism of the menstrual period. We also know that the antrum may secrete a fluid so irritating that it will cause swelling of the Schneiderian membrane and excoriation of the nostril and lip.

"The second proposition is amply demonstrated, as I have previously intimated, by the fact that the fluid contents of the accessory sinuses (chiefly antrum) may be absorbed by the lymphatic capillaries and carried to these contiguous glands. In confirmation of this view I can recall having seen a case of chronic, indurated lymph node of the cheek that had been diagnosed sarcoma by several competent surgeons. It promptly and spontaneously disappeared after a nasal operation that restored antral drainage and free breathing. Whether this lymphoid hyperplasia was caused by a bacterial infection or by the absorption of an irritating lymph fluid was difficult to determine. That it was not sarcoma was convincingly demonstrated by its rapid and complete resolution."

[12]Quincke. Münch. med. Woch., 1906, Nr. 1, p. 47.
[13]Osler. Amer. Jour. Med. Sci., January, 1898, p. 27.
[14]McHardy. Trans. Oph. Soc. of U. K., 1887, p. 109.
[15]Lagrange. Revue Gen. d'Opht., 1900, p. 329.

In the two cases of lymphomata that my study was based upon resolution of the enlarged glands was promptly gained by tonsillar excision without medication, thus removing the respiratory obstruction and improving the systemic oxidation. In a subsequent case, however, great improvement was secured by the exhibition of thyroid extract in small doses. Arsenic, in the form of Fowler's solution, has usually been employed in these cases on account of its well known power of increasing the oxidation of the blood. These therapeutic facts tend, therefore, to confirm the view expressed as to the etiology of this disease.

Our problem, however, is not always solved so simply. I have already referred to the fact that several etiologic factors are frequently commingled and sometimes confused. Suboxidation may be supplemented by intestinal toxemia from constipation and digestive disorders and both complicated by perverted sinus secretions that are at once infectious and toxic. Such a case was kindly referred to me in consultation, about two years ago, by Dr. A. J. Bedell, of Albany.

His sight had been failing for about five years. During the preceding two years it had been reduced to 20/70 in the right eye and 20/50 in the left eye. The nervehead was somewhat pale, and the vitreous was made hazy by a cobweb opacity, the result of a former hyalitis. There were several isolated areas of old choroiditis with pigmented deposits along the course of the vessels. The fields were contracted in both eyes, with central scotomata. He suffered from severe headaches for five years, but these had ceased about two years before. They were followed, however, by sharp attacks of facial neuralgia, chiefly in the spring and fall. He had enormous puffing of the septum and turbinates, causing mouth breathing at night. There was a slight escape of glairy muco-pus from the antrum. A microscopic examination of the antral secretion revealed pneumococci in large numbers with a few streptococci. His vision would drop sharply whenever his breathing was obstructed by a cold in the head. The same blurring would occur whenever his bowels became constipated. The vision, however, recovered promptly as soon as these functions were restored to their normal condition. The vacillating vision showed that the infection or toxemia was intermittent and dependent upon the degree of auto-intoxication and

associated suboxidation. It did not, however, clearly demonstrate which factor was most pronounced. In fact there was a possibility of both elements being active. He had previously been placed under a careful and systematic course of alterative treatment, but the results were disappointing.

The indications were in favor of intranasal cauterization in order to restore the ventilation and drainage of the nose. Following this operation his convalescence was rapid. His distant vision recovered from 20/70 to 20/30, the reading vision improved from J 10 to J 3 and the fields increased greatly on the temporal side.

Auto-intoxication from the intestinal tract is probably the form of metabolic disturbance that presents the greatest amount of clinical evidence. The subject has been ably discussed within recent years by de Schweinitz[16] who is convinced that uveitis, blepharitis, keratitis and certain neuro-retinal lesions result from the absorption of toxic substances that have been previously eliminated in the waste of the intestinal canal and have there undergone putrefactive decomposition. Woods[17] in a later communication freely endorses these views and cites some interesting cases in confirmation. Turck[18] has demonstrated that intestinal toxins, injected into the dog's circulation, will cause blindness through organic changes in the nervehead.

Unfortunately the urine in these cases of autotoxemia does not always show a relative elimination of tangible toxins, just as there is a lack of such evidence in serious ptomain poisoning. Jaffé,[19] however, is convinced that the degree of bacterial decomposition in the intestines can be measured by the amount of indican found in the urine. Elschnig[20] and Groyer[21] likewise accept the view that the presence of indican in the urine is pathognomonic of intestinal toxemia. De Schweinitz, on the other hand, believes that indican, while not always present, is very suggestive when it does appear. Although this interdependence seems probable, there is no evidence to show whether the indicanuria results from overproduction of intestinal toxins,

[16] DeSchweinitz. "Auto-intoxication in Relation to the Eye." Trans. Ophthal., Sect. A. M. A., 1906, p. 377 and 1908, p. 20.
[17] Woods. "Auto-intoxication and Allied Intestinal Trouble." Trans. Ophthal. Sect. A. M. A., 1910, p. 400.
[18] Turck. Quoted by Casey Wood in discussion of de Schweinitz's paper on auto-intoxication. Trans. Ophthal. Sect. A. M. A., 1906, p. 393.
[19] Jaffe. Virch. Archiv., LXX, 1877, p. 72.
[20] Elschnig. Klin. Monats. f. Augenh., Vol. XLIII, No. 2, 1905, p. 417.
[21] Groyer. Münch. med. Woch., Sept. 26, 1905, p. 1881.

or whether it is caused by their excessive absorption. On this point Hertz[22] pertinently remarks: "When excess of these substances is present in the urine of constipated individuals, it may just as well be due to the increase in the quantity absorbed, owing to the longer stay of the feces in the colon, as to an increase in the quantity produced." While the presence of indican in the urine is significant of intestinal toxemia it should be remembered that indican is not in itself a toxic substance, but has probably been modified in the process of elimination.

Daland[23] endorses the view that indicanuria is significant of putrefactive absorption but believes that auto-intoxication may originate in the mouth and nasal sinuses as well as in the intestines, that indicanuria may be present without symptoms of toxemia and that constipation may exist without indicanuria. He further says, "Indicanuria has been observed in diarrhea, in association with indigestion, gastritis, enteritis, colitis, ulceration or obstruction of the small or large intestines, cholera, dysentery, Addison's disease, typhoid fever and inanition. Clinically, indicanuria occurs more readily when the hepatic function is disturbed than when this organ is normal."

Eales,[24] of Birmingham, was one of the first to call attention to the fact that prolonged constipation was liable to cause recurrent intraocular hemorrhage. He believed that this was most prevalent in young men at about the age of puberty and was probably due to some unexplained vaso-motor spasm in the splanchnic region, which created a high arterial tension and thus caused a retinal or ciliary hemorrhage. I have treated and reported a number of these causes of hemorrhage from the ciliary body occurring in females[25] and in all of them there was abundant evidence of a toxemia aside from the acknowledged intestinal torpor. The fact that they cleared up under prolonged catharsis would seem to indicate that some irritating chemical was being absorbed from the intestinal tract and carried by the circulation to the minute end-vessels of the eye, where further escape was impossible and a minute rupture of the vascular sheath was the necessary result of the corrosive action and subsequent endarteritis. A similar toxic action from a disturbed renal function may be the origin of the so-called albuminuric retinitis and sub-

[22] Hertz. "Constipation and Allied Intestinal Disorders," 1909, p. 159.
[23] Daland. Jour. A. M. A., Oct. 30, 1909, p. 1446.
[24] Eales. Birmingham Med. Review, 1880, p. 262.
[25] Ziegler. Cases presented before Ophthal. Sect., Coll. of Phys., Phila., 1901.

To Illustrate Dr. Ziegler's Article on "The Chemistry of Metabolism in its Relation to Ocular Disease."

Albany Medical Annals, August, 1911.

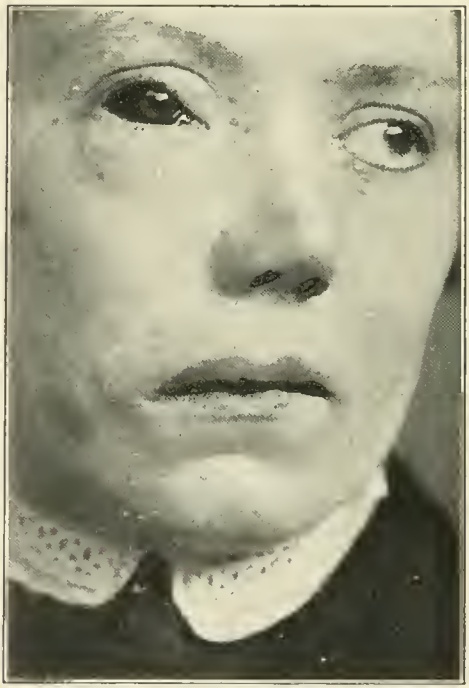


FIGURE 1. Hemophilic extravasation into conjunctiva and cheek of right side. The facial scar was caused by a previous effort to excise redundant tissue after a similar attack seven years before.

retinal hemorrhages which occur in Bright's disease, although the disturbed suprarenal secretion probably participates in this lesion. The perverted metabolism of the menstrual period may also cause an intraocular hemorrhage, which is usually classified under the head of vicarious menstruation. I have observed several cases of this character.

Knies[26] expresses similar views as to the chemopathic origin of retinal hemorrhages in his discussion of Hirschberg's[27] cases. He says, "In very acute sepsis from the absorption of a large amount of the chemical products of decomposition, and toward the end of life, in the more chronic infections, extensive retinal hemorrhages are often found." The sudden hemorrhagic infiltrations occurring as sequelae of la grippe probably have a similar origin.

In 1901 I had under my care an unusual case of hemophilic extravasation (Fig. 1) following chronic constipation, in which there occurred a tremendous cellular infiltration of the right cheek, accompanied by a vascular growth that projected from the conjunctiva of the right eye. The condition so nearly resembled sarcoma of the antrum that a general surgeon advised immediate excision of the upper jaw. As I had previously treated her she was again referred to me for further study. I recalled that I had seen her in a similar attack some years before and that her history showed a recurrence of this disturbance every seven years. Prior to this last attack she had suffered severely from hyperidrosis, starchy indigestion and chronic constipation, the stools occurring at intervals of more than a week. The urinary examination was negative. The blood count showed erythrocytes, 4,820,000, leucocytes, 10,400, hemoglobin, 80 per cent. She was placed on thyroid extract and suprarenal extract, with a liberal use of cathartics. There was some improvement but it was slow. As she had marked nasal obstruction, which was increased by the pressure of the extravasation, it was finally decided to cauterize the inferior turbinate and the septal puff. One month later, simultaneous with the opening of the nostril, the resumption of free breathing caused prompt and complete absorption of the hemic infiltrate and, coincidently, the clearing up of a facial acne that had been present for more than a year.

[26] Knies. "Diseases of the Eye in Relation to General Diseases," 1895, p. 320.
[27] Hirschberg. Centralb. für Augenheilk., 1885, p. 84.

Here again is shown a similarity in the disturbance of metabolism produced by constipation and by nasal obstruction, which can be traced back to the common ground of suboxidation. In other words, if the toxins are properly oxidized they are eliminated as harmless compounds. When they become so excessive that they cannot be oxidized they disturb the metabolism. This was further illustrated by this same patient who noticed that her tendency to hemorrhage from the ocular and buccal mucosa was suddenly increased when she indulged in strawberries or peaches. Another patient in the same class suffered from severe intraocular hemorrhage[28] after eating a box of strawberries. It has been shown that the acid in the strawberry may cause eruptions, hives, whorls, petechiae, vomiting and attacks of nervousness in patients whose weak metabolic balance predisposes them to such disturbances. The chemical analysis of strawberries shows no especially irritating element, unless silicic acid (6.05 per cent) may be so considered. It is claimed that silex is a deoxidizing agent and so might possibly have a disturbing action on the oxygen content of the body fluids, somewhat analogous to that of the xanthin compounds and the carbohydrates previously referred to.

The modern view that the internal secretions furnished by the ductless glands are vital to the metabolic processes has been confirmed beyond cavil. A most instructive review of this subject has recently been made by Meltzer.[29] The influence of the thyroid gland on metabolism and particularly on the oxidizing power of the blood is of the highest importance. The action of thyroid extract as an alterative and an absorber of deposits led me many years ago to use it in ocular disease and especially for absorbing subretinal effusions and hemorrhages into the vitreous. It proved to be of marked value in the series of intraocular hemorrhages which I have previously mentioned. Administered in small doses (gr. j—ij, t. i. d.) it has frequently caused the prompt disappearance of a stagnant hemic deposit that had previously resisted a prolonged course of the iodides. Its restraining influence on hemophilic tendencies is well known. I have also found it of great value in reducing high arterial tension. Radcliffe[30] has recently shown the beneficial effects of thyroid

[28] Ziegler. "Recurrent Hemorrhage from the Ciliary Body Resulting in Cataract." Trans. Phila. Co. Med. Soc., Oct. 12, 1892.

[29] Meltzer. Jour A. M. A., Apr. 30, 1910, p. 1430 and May 7, 1910, p. 1506.

[30] Radcliffe. Trans. Amn. Ophthal. Soc., 1908, p. 397, and The Ophthalmoscope, Sept., 1908, p. 676.

extract in modifying the nutrition of the eye in cases of interstitial keratitis, while Risley[31] has confirmed this observation and demonstrated its additional value in the keratomalacia of certain cretinoid types.

As previously mentioned, lymphatic dyscrasiae are pronounced pathogenic factors in the metabolic problem. Perverted lymphatic secretion is certain to follow the irritation of toxins when the reserve oxygen is low. This condition is particularly noticeable in interstitial keratitis, in serous iritis and in chronic glaucoma, where it often amounts to lymphatic stasis. The source of chemical irritation may occasionally be wholly localized within the eye. I have several times observed cataractous lenses that contained irritating chemicals and have seen these cause glaucomatous attacks and flannel-red eyes whenever a little of the retained lens substance escaped from the collapsed capsular cyst into the anterior chamber.

The query naturally arises how can we control this condition of lymphatic stasis? In other words, is it possible to inhibit perverted lymphatic secretions and to stimulate fresh ones? I have found that this can undoubtedly be accomplished in the eye by administering hyoscin and morphin hypodermically to inhibit the flow of irritating lymph and by supplementing this with pilocarpin guarded by strychnin to stimulate the secretion of fresh, active lymph. This observation seems to be a contradiction of the well known fact that in glaucoma we should administer eserin to contract the pupil and, *per contra,* that hyoscin is dangerous because it dilates the pupil. This dictum is undoubtedly true when hyoscin is instilled locally, but when administered internally it acts on the whole lymphatic system to inhibit the flow of perverted lymph and to cause its absorption before a mydriatic effect can be exerted upon the eye. Following this, the pilocarpin will stimulate the secretion of fresh lymph and thus relieve the local stasis. As soon as this stasis is removed the eserin already in the eye becomes active and the pupil immediately contracts.

My first experience in the use of this contradictory medication occurred in 1888. A patient suffering from severe glaucoma was suddenly plunged into acute mania. The pupils had remained widely dilated in spite of the prolonged use of a strong

[31] Risley. Ophthalmic Record, July, 1908, p. 330.

solution of eserin. I gave a hypodermic injection of hyoscin hydrobromate to control the maniacal excitement. On examining the eyes an hour later I found that the pupils had yielded to the eserin that had been previously instilled and were absolutely myotic. One week later I administered hyoscin to another case of glaucoma to relieve nocturnal neuralgia with equally good effect. The hyoscin was given internally for several nights with the result that the glaucomatous attack was completely relieved. A recent examination of this patient showed that there had been no return of the disease for more than twenty years. Since that time I have always used this combination to abort attacks of fulminating glaucoma and to control the exacerbations of this disease that are liable to occur.

It is equally valuable as an abortifacient in many similar conditions, and should prove useful in many phases of general disease. It will control post-operative mania if given in the early stages. It should only be used as an emergency remedy and should not be administered as a continuous medication. If the inhibitory effect is most desired the hyoscin and morphin may be given first, followed in a half hour by the pilocarpin and strychnin. If the lymphagogue action is indicated this sequence should be reversed, the pilocarpin and strychnin being given first, and the hyoscin and morphin later. In a few cases I have tried a dosimetric effect by dividing a single dose of the alkaloids into six equal parts and giving one of these portions at more frequent intervals. As a rule, however, I administer the four drugs together, once or twice a day, for two or three days, either by the mouth or hypodermically, in the following dosage:

℞ Hyoscin hydrobromat .....gr. 1/100
Morphin sulphat .....gr. 1/6
Pilocarpin nitrat .....gr. 1/8
Strychnin nitrat .....gr. 1/30

Similar lymphostatic effects may be secured by the use of any of the solonaceae or their derivatives. The belladonna preparations are not, however, as efficient as those of hyoscyamus. Passiflora incarnata probably belongs to this group as it possesses a decidedly inhibitory action on perverted secretions. Its efficiency is especially noticeable in the later toxemias of pertussis, the exanthemata, la grippe and alcoholism. Picrotoxin (gr. 1/100) also exerts a somewhat similar effect. It has been

used chiefly to check the night sweats of phthisis. I have often given it in ocular disease where a leaky skin denoted the dermic elimination of perverted secretions, the formation of which may often be prevented by its use. Morphin, while possessing a pronounced inhibitory action on secretion, has certain derivatives such as dionin and apomorphin, that are active lymphagogues, although not so efficient as pilocarpin. The prolonged administration of morphin, like that of alcohol, creates perverted secretions similar to the endogenous toxins, which can only be counteracted by the use of hyoscin and pilocarpin.

The brilliant work of Ehrlich in the field of chemopathology has brought us a step nearer to the goal of chemotherapy. Chemopathy, or the chemical theory of disease, has thereby received an impetus that has focused the attention of medical investigators the world over. If the cultivation of this fascinating field of research shall abolish the present tendency to medical nihilism and forever banish that fatal dictum "not to give any drug that might mask the symptoms" a great and humane good will be accomplished and rational therapeutics will again assume the important position in medicine that it should naturally command.

Chemotherapy should have at least three objects in view, (1) sterilization of the body fluids, in order to inhibit bacterial life without danger to the human organism, (2) neutralization of the irritating toxins and perverted secretions already circulating in the system, and (3) stimulation of fresh secretions from the lymphatic and ductless glands. The specific action of Ehrlich's arsenobenzol on the spirocheta of syphilis, seems to partially meet these indications; it acts as a direct lethal poison on the parasite itself (spirillicide), it produces a radical change in the biochemistry of the body fluids, and in addition to this it seems to exert a pronounced stimulating effect on metabolism and nutrition that cannot be wholly explained through destruction of the spirocheta. In a case of interstitial keratitis (hereditary) recently treated for me through the courtesy of Dr. Judson Daland, the Wasserman reaction was strongly positive (+ 4). An intragluteal injection of gram. 0.5 was followed by slight ocular improvement. As the Wasserman reaction remained uninfluenced at the end of a month a second injection of gram. 0.3 was given intravenously. This was promptly followed by marked improvement. It is probable that this direct method of

administration will prove the most efficient, although it will always require a skilled operator to execute the more elaborate technic.

The preparations of arsenic have long held sway as important therapeutic agents in metabolic disorders. Fowler's solution in combination with tincture of chloride of iron and mercuric chloride is an old established reconstructive tonic. Cacodylate of soda (gr. 1/20), digitalin (gr. 1/10) and thyroid extract (gr ij) is a combination that has proved to be valuable in improving assimilation, and in reducing high blood pressure. Small doses of arsenious acid combined with the glycerophosphates will exert a direct influence on ocular disease through improvement of the general metabolism. Clemens' solution of the arsenite of bromine (m iij-x) has demonstrated its value in diabetes mellitus. It has been my custom to resort to this chemotherapy in all ocular complications of this disease and to administer it for several weeks prior to any operative procedure. In two recent cases of cataract extraction this treatment had been carried out for about two years, until all diabetic symptoms had disappeared. The operations were wholly free from accident or post-operative reaction.

Donovan's solution of the iodides of arsenic and mercury (m v-xxx) is probably the most efficient combination of these drugs that we possess. While its specific action is best exhibited in the secondary and tertiary lesions of syphilis its value as an alterative and an absorptive of plastic exudates in non-luetic cases is of the highest order. I have sometimes used it hypodermically to secure a prompt and decided action. Lugol's solution seems to exert a specific iodin therapy on the thyroid gland in exophthalmic goitre.

In tertiary lesions the large quantities of potassium iodide that have often been employed are suggestive of a chemical saturation of the body fluids. On the other hand, the lymphagogue action of the mercurials may be manifested when the dosage is extremely minute, the action being exerted directly on the eye as well as on the liver and if carried to excess resulting in the stimulation of the salivary glands to the point of salivation. These small doses of calomel will stimulate the liver to destroy the intestinal toxins and thus correct the indicanuria. Phosphate

of soda has a similar action on the liver and on the alimentary tract.

The massive doses of the salicylates which Gifford employs in sympathetic ophthalmitis also possess a chemical significance worthy of our closest study. According to the strength of the solution, salicylic acid when applied externally has a mildly corrosive or cleansing effect, as in icthyosis, but in stronger solutions it has an escharotic effect, as shown in the application of Ewing's solution to neoplastic growths. Whether a similar chemical action is manifested *in vitro,* or whether there is simply a sterilization of certain toxic substances in the body fluids remains for the biochemist of the future to determine. The abortive action of salol and phenacetin in the early toxemia of la grippe or the dengue-like symptoms of a cold is probably the result of a similar chemical manifestation.

Although not as well known, the administration of carbolic acid, in what may be considered large doses, has a somewhat similar action to that of salicylic acid and the salicylates, to which it bears a close chemical relation. Contrary to the present belief, its administration will increase the urine and cause it to clear up and become a limpid or straw-colored fluid. At the same time it stimulates a rapid improvement in the local lesion and a general physical betterment that is apparent to physician and patient alike. It is only when its poisonous action is pronounced that a smoky urine develops, but this is manifested much more slowly when the body fluids are saturated with the toxic biproducts of perverted metabolism. A trial of this therapy in sympathetic inflammation has met with sufficient success to warrant the placing of other lesions under this therapeutic test. I am convinced that carbolic acid merits our further study from the new standpoint of chemotherapy.

A most instructive case of neuro-retinal edema with temporary blindness, successfully treated by this method, occurred in the practice of Dr. Herbert Fisher[32] of this city, a few years ago. The patient was suffering from post-puerperal nephritis and was apparently moribund from uremic coma when first seen. The urinary examination showed a test tube almost solid with albumen. Carbolic acid was administered, well diluted, every three hours, beginning with one minim in two ounces of

[32] Fisher. Personal communication made to the writer.

water and increasing by one minim at each dose until ten minims of the acid and twenty ounces of water were given at once. This dosage was then continued three times a day for a week, at which time the patient was practically convalescent. In about two weeks she was able to be removed to the mountains where her health and vision were soon recovered and have been satisfactorily maintained for the past four years.

In another case of long continued, low grade septicemia, the result of a prostatic bruise complicated by a small localized abscess, the same treatment was instituted, the phenol being increased as the patient acquired tolerance until symptoms of dizziness were manifested. The sensation of perineal weight soon disappeared and was followed by a feeling of stimulation and physical wellbeing that continued until complete recovery was assured.

A similar therapy was advocated by the late Dr. D. F. Woods[33] of this city, about twelve years ago, in a severe case of tetanus with convulsions. He administered thirty minims of a ten per cent solution of carbolic acid hypodermically, every half hour the first day, every two hours the second day and every three hours the third day, at which time the spasms began to lessen. The injections were then continued three times a day for about two weeks longer until the muscular rigidity had disappeared. There was profuse secretion of urine in which the odor of phenol was noticeable. Although slight smokiness of the urine made its appearance on the second day no other toxic symptoms developed. Whether the action of carbolic acid is wholly a sterilizing one, or whether it neutralizes certain toxic substances in the body fluids and ultimately encourages oxidation are problems that remain to be solved. It should at least be kept in mind as an emergency remedy to be resorted to in desperate cases of local or general toxemia.

Urotropin should also be studied more carefully in its relation to chemotherapy. Crowe[34] has demonstrated its lethal action on B. typhosus and B. pyocyaneus. He has also tested its sterilizing power on the body fluids by withdrawing cerebro-spinal fluid through a lumbar puncture and making streptococcus cultures before and after administering the drug. He thus succeeded in reducing the bacteria from 30,000 to 500 (per plate) in the

[33]Woods. N. Y. Med. Jour., Sept. 9, 1899 p. 377.
[34]Crowe. Johns Hopkins Hosp. Bul., April, 1908, p. 109 and April, 1909, p. 102.

brief period of two hours. He was able to show that its maximum efficiency is exhibited in from one to five hours after its administration although it continues to circulate in the blood for about twenty-four hours. By delicate chemical tests (Hehner) he revealed its presence in the synovial and cerebro-spinal fluids, pleural effusion and blood. He found that it was eliminated in the urine, bile, pancreatic juice and saliva. Although it did not disturb the stomach it sometimes caused hematuria, which promptly disappeared when the drug was withheld. Cushing administers it to prevent infection in all injuries and operations about the head.

Barton[35] has employed urotropin in pneumoccoccic infection of the middle ear. He not only demonstrated its efficiency as a germicide but also proved by accurate chemical tests that it was directly eliminated from the auditory canal about twelve hours after its ingestion. I have used urotropin with success to shorten the course of a series of cases of hypopyon keratitis, in doses of from 5 to 10 grains, three times a day. Dinkelspiel[36] has recently reported the successful administration of 40 to 80 grains daily in cases of sympathetic ophthalmitis and irido-cyclitis with hypopyon. It is evident that the formalin content of this drug has a more marked sterilizing effect on the body fluids than formalin has when administered alone.

We should not overlook the fact that quinine is a most efficient therapeutic agent both from the standpoint of metabolism and of chemotherapy. It fulfills all the requirements of the latter by being lethal to the plasmodium malaria, by neutralizing certain toxic agents in the blood and lymph stream, and by stimulating fresh secretions, probably through its bitter principle. At the Wills Hospital it has long been combined with turpentine in what has been termed "McClure's Mixture." I have seen this combination act most efficiently in clearing up the sluggish circulation of chronic iritis and irido-choroiditis, and in relieving at least one notable case of sympathetic ophthalmitis when every other therapy had failed.

While searching for an effective chemotherapy we should not forget that the emunctories must be kept active. Elimination may be encouraged through the kidneys or by diaphoresis through the skin. Vapor baths, alone, were most efficient in bringing

[35] Barton. Jour. A. M. A., Mar. 12, 1910, p. 871.
[36] Dinkelspiel. Jour. Ophthal. and Oto-Laryngol., Nov. 1910, p. 425.

relief to a marked case of papilledema from la grippe, while injections of pilocarpin were successful in a case of optic neuritis following measles.

The treatment of gastro-intestinal toxemia requires (1) correction of all dietetic errors, (2) strong digestive principles to fully digest the food and cause its assimilation, (3) intestinal antiseptics to allay fermentation, such as thymol (Henry), resorcin, bismuth salicylate or potassium permanganate, and (4) thorough emptying of the intestines by vegetable and saline cathartics, or by intracolonic lavage.

Hypodermoclysis should be resorted to whenever there is impending danger of post-diphtheritic paralysis, in order to dilute the toxic fluids and thereby weaken their corrosive action. This same principle is involved in the injection of fluids into the sheath of a painful nerve. It is not so much the character or composition of the fluid injected, but the fact that it dilutes the chemically irritating fluid in the nerve sheath and thus relieves the pain.

In conclusion, the chemistry of metabolism demands for its scientific elucidation a skilled biochemist who should have a higher special training even than the bacteriologist. The chemical pathologist must work hand in hand with the internist or much of his effort will be wasted for lack of correlated clinical knowledge. He should have infinite patience in utilizing the minute quantities of secretion that can be secured for his investigations, and must, perforce, be a micro-chemist. It should be his aim to work out toxin reactions that can be used for local or general tests, just as the bacteriologist has partly succeeded in securing bacterial reactions. When he has reached this point he will be able to furnish us with chemical and antitoxin reagents which will supplement our serums and bacterins and thus provide us with a more rational method of diagnosis and treatment.

In our search for an efficient chemotherapy to restore the balance of metabolism we should always preserve our proper relation to the normal chemistry of the body fluids by utilizing the following physiologic methods:

1. Administer those chemicals which will neutralize the irritating toxins and sterilize the body fluids, thereby inhibiting chemotaxis and preventing bacterial growth.

2. Increase the systemic oxidation by removing all respiratory

obstruction and improving the nasal ventilation and sinus drainage.

3. Inhibit perverted lymphatic secretions by the proper therapy.

4. Stimulate fresh lymphatic secretions by the use of lymphagogues.

5. Administer glandular extracts when the internal secretions are deficient or perverted.

6. Correct gastro-intestinal errors by dietetic, digestive, antiseptic and purgative measures.

7. Eliminate katabolic products by diaphoresis and stimulate the normal activity of the skin.

8. Encourage elimination by the kidneys.

9. Reduce high blood pressure and regulate the cardiac and peripheral circulation.

10. Employ hypodermoclysis (local or general), when the poisons are unusually virulent, in order to quickly dilute the body fluids and thus lessen the corrosive action of the concentrated toxins.

A CASE OF ANGINA PECTORIS DUE TO SCLEROSIS OF BOTH CORONARIES AND EMBOLISM OF THE RIGHT; SYMPTOMS LIMITED TO PAIN.

Report of Autopsy and a Discussion of the Cause of Pain of Stenocardia.

Read before the Medical Society of the County of Albany, February 28, 1911.

By CHARLES STOVER, M. D.,

Amsterdam, N. Y.

J. B. S., a veterinary surgeon, aged 59, a robust, active man, giving no objective or subjective evidence of disease, on Wednesday, July 27th, while engaged in subduing a vicious horse, found himself nearly exhausted, and for the first time observed some embarrassment in breathing. On the following day while driving he had a mild attack somewhat similar. On Friday, the 29th, a severer seizure occurred, when I found him on his knees with the body over a hammock writhing in pain. As is usual, he attributed his attack to gas in the stomach which he belched

up repeatedly, and occasionally vomited, with no relief. The pain was over the chest and in both arms. A hypodermic of three-eighths grain of morphine relieved the distress. On Saturday, though only partially relieved, he rode into the country and did a tracheotomy on a horse, and had an attack meanwhile. With professional pride he remarked that the relief given the animal was worth all the effort it cost. On Sunday he had recurring attacks that brought him to his knees, or led him to walk the floor, never remaining horizontal. Morphine was given repeatedly and successfully to relieve the pain. During the night several paroxyms occurred and death finally came, apparently during sleep, at 4 A. M. Monday, August 1st, the fifth day after the first symptom. Several observations made during these attacks showed a systolic blood pressure of 135 mm. Hg., a pulse of 68 to 74. In previous years he had been concerned about his lungs, and his chest had been examined repeatedly. He then showed a bronchitis, but no sign of cardiac disease.

An autopsy made by Dr. Bernstein presents the following:

Post mortem examination at residence, Amsterdam, N. Y., August 1, 1910, for Dr. Charles Stover by Dr. Bernstein.

Dr. J. B. S. Aged 59 years. Eight hours post mortem.

Body is that of a well developed, and obese white male. Rigor mortis is present. There is slight lividity of dependent portions. The pupils are dilated, measuring approximately 6 mm. Arcus senilis is present. Œdema is absent.

Peritoneal cavity.—The surfaces are normally smooth, moist and glistening. There are present about 10 c. c. of a clear straw colored fluid free in the abdominal cavity. Mesenteric lymph nodes are not enlarged. Diaphragm, left, 4th interspace; right, 4th rib. The appendix lies retrocæcal and is surrounded by a few fine firm adhesions.

Pleural cavities.—The surfaces are negative save for a firm white adhesion between the postero-inferior margin of the right lower lobe and the diaphragmatic surface.

Pericardial cavity.—The surfaces are negative. There are about 5 c. c. of a clear straw colored fluid present.

Heart.—The right heart is enormously dilated. The left heart is firmly contracted. Between the ventricles there is a deep groove. The heart is apparently of normal size and weight. There is much cruor clot and fluid blood in the right chambers. The cusps of the aortic valve are firm. The tricuspid, pulmonic, and mitral valves are not remarkable. There is marked opacity of the endocardium of the left ventricle. The heart muscle is beefy red, and of normal consistence. The papillary muscles present a slight greyish discoloration. The vessels of the left heart are engorged with blood. Beneath the pericardial layer of the left ventricle are numerous small pinpoint haemorrhagic areas, more numerous at

the apex. These are also evident on section of the muscle. The left coronary artery shows moderate sclerotic changes along the initial third of its course. Its diameter widens in the remaining two-thirds. The right coronary artery at the end of the first centimeter of its course, presents a marked narrowing of its lumen, which shows also an occlusion due to a small reddish friable mass. The artery distal to this portion is patent.

Lungs.—They are voluminous. Crepitus is present throughout. The cut surface is deeply injected and a moderate amount of a frothy blood stained fluid can be expressed.

Spleen.—It is of slightly increased size, weight, and consistence. Cut surface is dark red. The trabeculae are prominent. Fluid blood escapes on section.

Gastro-intestinal tract.—The stomach is collapsed. The intestines are slightly distended. The ileum shows post mortem discoloration. The rugae of the stomach are marked, and the walls are, in areas deeply injected (post mortem). The large intestines contain a moderate amount of a greenish fluid material with many fecal concretions.

Pancreas.—It is normal in size, shape, and consistence.

Liver.—It is apparently of normal size and weight. The lower border lies at the costal margin. The cut surface is of a greyish mottled color. Much fluid blood escapes on section. To the gall-bladder are attached several whitish adhesive bands between it and the omentum. The bile passages are free.

Kidneys.—They are of slightly increased size and weight. Consistence is markedly increased. The capsule strips readily exposing a smooth surface. The cut surface is of a dark reddish color. The glomeruli glisten. The pyramids are deeply injected. The cortex measure one centimeter in width. Fluid blood escapes.

Adrenals.—Not remarkable.

Bladder.—Negative.

Genital organs.—The prostate shows very slight enlargement of both lobes.

Aorta.—The ascending arch shows several greyish striated areas 0.3 centimeters in diameter which are very slightly elevated. The thoracic portion has similar areas of larger diameter. The abdominal aorta presents a moth-eaten appearance. There are many irregularly outlined areas of a marked yellowish color, which enclose calcareous plaques. The intima strips readily and reveals several subjacent soft areas.

Organs of neck.—Digital examination is negative.

Head.—Not done.

Anatomical diagnoses.—Acute dilatation of heart, thrombosis of right coronary artery, acute congestion and œdema of lungs, acute congestion of kidneys, congestion of liver, chronic pericholecystitis, chronic periappendicitis, chronic pleuritis, arterio-sclerosis (marked), chronic endocarditis (aortic).

To account for the pain of angina pectoris some French writters have advanced the theory of an inflammation, but this has

not been proven by an examination of the cardiac plexus. The pain, however, is in the cardiac plexus and radiates to adjacent nerves, and since Thoma has found sclerosis of the temporal artery in migraine and Dana has shown thickening of arteries in some cases of neuralgia, the theory is presented that angina is a neuralgia of the cardiac nerves. Heberden thought it to be a cramp of the heart muscle itself. It is difficult to understand how the heart muscle can remain in a state of spasm and still perform its functions. It is a fact that the pulse may be strong, and sometimes accelerated. John Hunter in one of his attacks could feel no pulse in his arms for 45 minutes. Traube held that it was due to the extreme tension of the ventricular walls in consequence of an acute dilatation, associated usually with an affection of the coronary arteries. A modification of this view is that there is a spasm of the coronary arteries with increase of intracardiac pressure. Allan Burns suggests a theory illustrated by what takes place when "intermittent claudication" occurs in a limb; that is, a transient ischemia of the heart muscle owing to spasm, or disease of the coronary arteries, though he does not think spasm is essential to the ischemia. Osler remarks that while Cohnheim's experiments of ligating a large branch of one of the coronary arteries show arrhythmia and death in two minutes, there is nevertheless not much light thrown upon the etiology of angina. Sclerosis of the coronaries is common, *though a majority of these cases show no angina,* and even in occlusion of an artery, particularly of the anterior branch of the coronary, there is no great pain either before or during the attack. Tyson inquires whether, just as we get a neuralgia in a badly nourished nervous system, we may not likewise associate an angina with defective nutrition. Of course we may, but this is not explanatory. George Dock concludes an interesting discussion by remarking that we are not justified in saying more than that the conditions for the occurrence of a stenocardia in heart disease are probably brought about by the sudden development of a disproportion between what the heart needs and what it gets. It should be remembered that a great many clinical observers have not carried their cases to autopsy, and therefore their conclusions may be unwarrantable. It may be doubted, that the term of pseudo-

angina would have been used if the life history of individuals were completed by post mortem findings.

Dr. George Dock has remarked that: "*Cardiac weakness is unquestionably the rule,* but according to the literature it does not invariably accompany the attacks. This fact has been positively stated by excellent observers, in fact, by the classic writers, on the subject, among whom I need only mention Heberden and Huchard.

"Some authorities even contend that the action of the heart may be stronger during the attack. There is no doubt that a large number of detailed and careful descriptions of the circulation during the attack would be most desirable. For it would be difficult to find a condition in which the statements of experienced and reliable observers exhibit such marked divergence, as any one may convince himself by examining the statements collected in the various text-books. Nothing is gained by citing the various theories, as every conceivable view has the support of physicians of the first rank. It only shows the necessity of further investigation. It is quite true that these investigations are not easy to carry out, for severe stenocardia is very rare and the patient's condition is so grave that it is not easy to make observations. But, at all events, the pulse (heart-beat or sounds) can be counted and its properties, as determined by palpation, can be described. One hundred detailed clinical histories written by good observers would be of great value. That the pulse may be very bad during the attack is proved by direct statements to that effect found in the literature. Eichwald describes a very curious change during the attacks; but I have not been able to find any convincing case histories to prove that the action of the heart may remain unchanged during the paroxysm. In this connection, however, the reader is reminded of the very positive and explicit statements by O. Vierordt and A. Fraenkel."

Occasionally the opportunity is offered as was presented to the writer to deliberately record the conditions before, during and after the attack. The explanation of angina made by James McKenzie is entitled to particular consideration, for the reason that he has so frequently studied cases of angina during the attacks, and subsequently at autopsy. He relates that his office

was at the top of a hilly approach, and that the effort incurred by his patients to consult with him led to attacks of angina, and frequent studies by him during the crises. His graphic method has recorded so many cases that he has been able to definitely conclude that angina pectoris is an evidence of exhaustion of the function of contractility. You will recall that Gaskell's five functions of the heart muscle are stimulus production, excitability, conductivity, contractility and tonicity. MacKenzie has analysed these tracings, and states with confidence that angina pectoris can occur when excitability, conductivity and the power to produce a rhythmical stimulus are unimpaired. That leaves to be considered then, only contractility and tonicity. Inasmuch as the failure of tonicity is chiefly evidence of dilatation of the heart, and angina occurs where this is absent, we may exclude failure of tonicity as the cause. The fifth function remaining is therefore contractility. The facts bearing upon this are: "(a) an a priori evidence in the fact that this is the function directly concerned in supplying the motive force to the circulation of the blood and that is the function that will necessarily become exhausted when an excessive resistance is opposed to the contraction of the heart muscle; (b) the symptoms associated with and the conditions giving rise to the characteristic sign of depressed contractility (pulsus alternans) are of a similar nature to the symptoms in angina pectoris; (c) angina pectoris may be associated with the pulsus alternans; (d) in other hollow organs severe pains are evoked by contraction of the muscle wall."

So far as I know, this last named principle, that is, severe pain in hollow organs evoked by contraction of the muscle wall, was first described by Hilton in his book on "Rest and Pain" published in 1876. He had remarked that no case of acute peritonitis occurred where the abdominal parietes was not drawn backward upon the peritoneum. He also referred to the constriction and tightness and shortness of breath of which patients suffering with pericarditis complain, and associated it with the reflex of a cutaneous or sensitive filament going to the pericardium, just as nerves in the interior of an inflamed joint can lead to muscular spasm of that joint. He also referred to the pain and tenderness of a pleurisy, not only over the super-

imposed skin, but also in the axilla and front of the shoulder, resulting from the distribution of the intercostals.

MacKenzie has adopted this principle and refers to other instances, as the pain of biliary colic, that is referred to the epigastrum and sternum, the pain of renal colic referred to the testicle, as well as of the heart referred to the arm. The explanation of this referred pain lies in an appreciation of the changes resulting in embryo, or the evolution of a species from a lower type. An instance of the first is when the testicle descends into the scrotum its coverings receive a twig from the first lumbar nerve from which the kidney is enervated; if the spinal center in the cord is stimulated by the presence of a renal calculus the pain is felt in the testicle.

The mechanism involved in the reflex pain of heart affections is understood by a reference to Ross in "Brain" who points out that in primitive vertebrates before any limbs have developed, each nerve is segmentally distributed around one-half of the body. These nerves are therefore distributed over the body-wall and the tissues covering the heart. Now when the arms are evolved, they bud out from the trunk and pull away portions of the dorsal and cervical nerves to be distributed to the ulnar border of the forearm and inner surface of the upper arm. A pain therefore originating in the heart and affecting the cord area of the first and second dorsal nerves would be felt as pain in the lowly vertebrate over the heart, whereas in man it would be reflected down along the upper arm or in the forearm. There is a marked difference between the pains in the hollow organs like the kidney, gall bladder, bowel and uterus, where a prolonged contraction causes pain, because the heart cannot long remain contracted. Immediately the heart contracts, it passes into a state of relaxation and hence the pain cannot be caused by a "spasm of the heart." According to MacKenzie, however, when the heart is subjected to work that it cannot overcome, pain in the heart muscle itself may result similar to the peristalsis and pain in other hollow viscera.

It seems therefore applying Gaskell's functions of the heart muscle, when the principle of depressed contractility is considered along with the graphic records obtained by the MacKenzie modified Marey apparatus or the Uskoff machine, that a demonstration is presented coming nearer to putting this subject upon a rational basis than has hitherto been possible.

ANGINA PECTORIS AND DISEASE OF THE CORONARY ARTERIES

Discussion of Dr. Stover's Paper.

By Thomas Ordway, M. D.,
Director of the Bender Hygienic Laboratory, Albany, N. Y.

In a recent paper on the "Clinical Aspects of Arterio-sclerosis" Jackson has given a very interesting and practical discussion of the causes and symptoms of arterio-sclerosis as based on the types described by Councilman. The latter believes that the primary disturbance is in the muscle coat and that the thickening in the intima is compensatory and conservative. The resulting loss of the normal elasticity interferes with orderly regulation of the blood supply in response to the demand of the organ. Hence the multiplicity of symptoms caused by arterio-sclerosis. When central vessels are affected vertigo, tinnitus, epileptic seizures, even dementia may occur, if peripheral, there may be manifestations of "muscular rheumatism," neuritis, or visceral disease, the latter occasionally combined with local skin eruptions. When the renal vessels are involved nephritis may follow with consequent hypertrophy and dilatation of the heart; local cardiac disease by extension to valves and coronary arteries and the resulting insufficiency may give rise to myocardial anemia, infarction, chronic myocarditis, cardiac aneurism or rupture.

Sears has pointed out in an admirable paper on "The Relationship between True and False Angina Pectoris" that although many associate angina with definite and constant lesions of the coronary arteries, such is far from the fact. Typical angina-like attacks have occurred in persons whose coronary arteries were normal and also we often find a varying degree of disease of the coronary arteries in those who have never had attacks of angina. Angina may be regarded as vascular colic or spasm of reflex origin and there is analogy to certain temporary paralyses, aphasias, Raynaud's disease and allied conditions, attacks of abdominal pain in tabes and lead poisoning. The so-called "intermittenant claudication" or angina cruris, described by Boullay in 1837 as occurring in the legs of a horse was later reported by Charcot in man. In certain cases of amaurosis such spasms are capable of ocular proof. Sudden interference with coronary circulation by emboli may be a cause of pain yet I remember very distinctly a case entirely without pain in which the symp-

To Illustrate Dr. Ordway's Article on "Angina Pectoris and Disease of the Coronary Arteries."

Albany Medical Annals, August, 1911

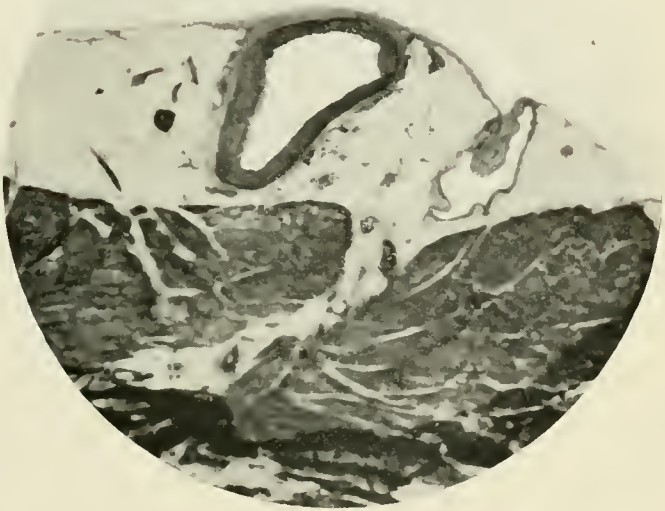


Fig. 1.—Section of epicardium, a normal control showing a *normal* right coronary artery (toward the left) and vein (at the right). Below is the myocardium. Photomicrograph (mag. x 10).

To Illustrate Dr. Ordway's Article on "Angina Pectoris and Disease of the Coronary Arteries."

Albany Medical Annals, August, 1911

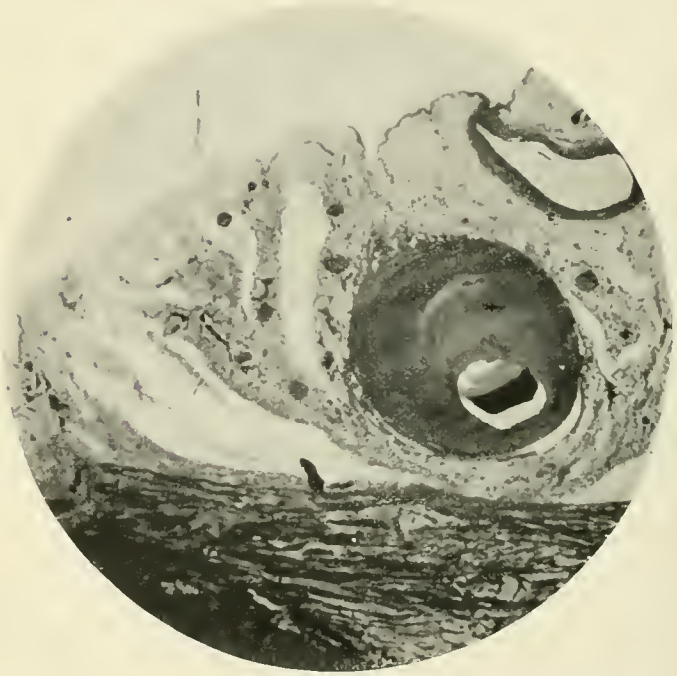


Fig. 2—Section of epicardium, Dr. Stover's case, showing marked thickening of the walls of the right coronary artery and occlusion of the lumen by thrombus. Photomicrograph (mag. x 10).

To Illustrate Dr. Ordway's Article on "Angina Pectoris and Disease of the Coronary Arteries."

Albany Medical Annals, August, 1911



Fig. 3—Section of epicardium, Dr. Stover's case, at level of a large branch of the right coronary artery, showing complete occlusion by the thrombus. The dark crescentic area in the wall of the artery indicates deposit of lime salts. The coronary vein is seen at the left and a small portion of the myocardium below. Photomicrograph (mag. x 10).

To Illustrate Dr. Ordway's Article on "Angina Pectoris and Disease of the Coronary Arteries."

Albany Medical Annals, August, 1911



Fig. 4—Heart (opened) showing left ventricle and aortic valve; above the central leaflet of the latter a coronary artery is seen laid open. It contains a thrombus which is indicated by the dark mass between the two pins. Gross photograph by Dr. H. P. Sawyer (natural size).

toms closely simulated a small pulmonary embolus and at post mortem examination a coronary embolus was found.

It is also interesting to note how often acute dilation of the right heart, particularly post-operative, may be mistaken for pulmonary embolus, the occurrence of the latter however is very frequently overlooked as pointed out by Sears in an excellent paper on "Some Clinical Aspects of Pulmonary Embolism." He believes that the "essential element in the production of an attack of angina lies in the disturbance of some nerve centre, located anywhere from the cerebral cortex to the heart, that these react peculiarly, easily, and in a pathologically exaggerated manner as result of some modification, either functional or organic, which has rendered them hyperesthetic to peripheral irritants. Among the latter are infections, toxins and poisons; notably lead, tobacco, syphilis, gout, nephritis and diabetes. The greater nervous irritability or instability of patients in private as compared with hospital practice explains the greater frequency of angina in the former class."

If such is the underlying cause of angina pectoris then there should be no sharp line of demarcation between the so-called false and true angina. Indeed even the most constant symptoms in differential diagnosis are variable, none are absolute, all are relative. This idea is fundamental in almost all medical work. The presence of (marked) cardiac lesions, however, may influence the prognosis. Obrastzow and Straschesko make the distinction that the essential difference between angina pectoris and coronary thrombosis is the prolonged character of the pain in the latter.

In the case cited by Dr. Stover it is interesting to note that some of the most troublesome symptoms had been respiratory and that the most marked lesions were in the right coronary artery (see accompanying photographs), yet the left coronary showed moderate sclerosis. The lack of abnormal physical cardiac signs, including the normal blood pressure, associated with marked subjective symptoms has been noted by other observers. The punctate subepicardial haemorrhages may have been caused by terminal spasm and resulting pressure, analogous to the more widespread ecchymoses in traumatic apnoea.

The occurrence of an extreme degree of dilatation of the right heart with the existence of occluding thrombosis of the right

coronary artery is analogous to that occurring experimentally in the dog upon ligation of the coronary artery.

Microscopically, the smaller blood vessels of many of the organs—heart, liver, pancreas, spleen, kidney, lung and prostate —showed a varying amount of endarteritis and acute and chronic perivascular inflammation. In the liver this condition was marked and associated with thrombosis of a few of the intrahepatic veins with adjacent acute and chronic inflammation. The myocardium showed a moderate degree of fatty infiltration and slight degeneration, and a few small scattered acute and chronic inflammatory foci; there was no widespread necrosis. Indeed the microscopic appearance of the myocardium was in striking contrast to the marked gross lesion in the right coronary artery.

Clinical and Pathological Notes

Bender Hygienic Laboratory Notes

A Suggestion on the Use of Wright's Blood-Stain. By Ellis Kellert, M. D.

The laboratory so often receives requests for a reliable blood-stain that the following note is made with the hope that it may prove of value to those having difficulty with Wright's stain which is the one in general use at the laboratory. Directions for preparing it may be found in Mallory and Wright's "Pathological Technique;" a recent modification of the method by Wright giving minute and helpful details is the one which we are now using; this may be found in the *Journal of the American Medical Association* for Dec. 3, 1910, on page 1979. The directions must be strictly followed—absolute methyl alcohol Merck), methylene blue (B. X. or medicinally pure), and bright freely water-soluble eosin used.

However well the stain may act at first it is often found that at the end of three to five weeks, or perhaps longer, a precipitate forms on the blood-film and the staining be irregular or too intense. These difficulties can be remedied promptly by simply diluting the stain with an equal quantity of absolute methyl alcohol (Merck) and the stain again acquires all of its former delicacy and brilliancy. If at the end of another few weeks it should deteriorate then the process of adding absolute methyl

alcohol may be repeated and in this case it will be necessary to allow the diluted stain a longer time to act, usually eight minutes with a dilution of two or three times. The solution must be kept in tightly stoppered bottles to prevent evaporation. If the staining solution has been standing a long time it is well not to disturb it but to draw off a sufficient quantity from the central portion, this will avoid carrying over onto the slide any precipitate which may have formed.

Editorial

> "Many of you may be ignorant of the Spirit of Medicine. It watches over all constantly, and assists the needy whenever necessity requires. The Great Spirit designed that some men should possess the gift of skill in medicine. But he is pained to see a medicine man making exorbitant charges for attending the sick. Our Creator made for us tobacco. This plant must always be used in administering medicines. When a sick person recovers his health, he must return his thanks to the Great Spirit by means of tobacco; for it is by his goodness that he is made well. He blesses the medicine; and the medicine man must receive as his reward whatever the gratitude of the restored may tender.. This is right and proper. There are many who are unfortunate, and cannot pay for attendance. It is sufficient for such to return thanks to the medicine man upon recovery. The remembrance that he has saved the life of a relative will be sufficient reward."
>
> LEWIS H. MORGAN.
> *League of the Ho-Dé-No-Saw-Nee, or Iroquois.*

✢ ✢ ✢

Medicine in China

Modern scientific medical methods are replacing the old empirical forms that are due to ignorance, superstition and lack of knowledge of or attention to hygiene and sanitation.[1]

This advance is due, in great part, to the conscientious efforts of the Medical Missionaries who have "paved the way which is now open to other influences."[4]

Not only have the missionaries treated the natives in their homes, in out-patient clinics and in well equipped hospitals but they have greatly advanced medical education by founding

schools, forming societies and translating medical books to aid in the training of native physicians. Although as Jefferys says,[4] there is "an overwhelming tendency on the part of some of the natives to adopt methods of quackery and charlatanism we must guard this statement by emphasizing the fact that this is only applicable to individuals and that it is merely more prominent as a fault than among our own fellow-countrymen."

Medical missionaries who have worked for years in the East tell of the great scarcity of well trained physicians and emphasize the large amount of needless suffering and disease; they point out the opportunities for service for recent graduates in the practice and teaching of medicine. The need of women physicians is particularly urgent.[2 and 3] Recently a meeting was held by women physicians of Boston in regard to the establishment of a fund for scholarships in India and China for the aid of women students in the medical schools there.

Dr. W. H. Jefferys, who has been particularly devoted to the advancement of medicine in China has recently written, in collaboration with Dr. J. L. Maxwell, an excellent book, entitled "The Diseases of China."[4] They describe and contrast in an interesting way the modern scientific with the empirical practice of medicine. The diseases common in China such as plague, cholera, leprosy, beri-beri, the opium habit and other conditions are concisely described and the numerous illustrations from photographs made by the authors and the frequent concrete cases cited to illustrate certain points serve to make the text more intimate. Maps and charts are used to indicate the distribution of the various diseases in so far as data was available. Hospitals and hospital construction and many factors leading to a better understanding of the conditions and needs of medical advancement in China are clearly discussed.

In indicating the type of worker needed for China, Jefferys describes the man most necessary the world over, "a man who will stick, who can endure, can plod on in patience, who has a level head and who is gifted with sound sense."

The progress in the medical condition of China is very encouraging; numerous well equipped hospitals and a few medical schools are conducted by Medical Missionaries chiefly in the larger cities. Many Chinese students attend the large medical department of the University of Tokio.[5] The excellent educational system of Japan is in large part due to their adept-

ness in imitation, and in medicine they have adopted the German standards. The English have the making of a good school at Hong Kong; some of the American Universities have affiliation with medical schools conducted by the missions.

The University of Pennsylvania has co-operated with the Canton Christian College and is referred to as the University of Pennsylvania Medical School and Hospital in Canton.[6 and 7] The Chinese officials are interested in the more modern idea of establishing ten or twelve strong medical schools in the important cities. Recently a group of Harvard men have incorporated under the General Incorporation Act of Massachusetts, the Harvard Medical School of China. The school is to be established in Shanghai where the cordial co-operation of foreigners, municipal officials and St. Johns' University has been freely offered.

Charles W. Eliot in a recent article[8] says of China that there are a few schools already under way but that they are deplorably inadequate to the needs of the empire. The medical needs are so urgent and so unquestionable that there is no doubt as to the great serviceableness of any institution which has for its purpose:

1. The training of medical and surgical practitioners, dentists, and public health officials.

2. The medical investigation of epidemic diseases most destructive in China and most dangerous for other countries.

3. The training of Chinese teachers for the new medical schools about to be established by the government.

4. The establishment of a department which offers instruction in Eastern Asiatic disease to Western medical men and to graduates of other medical schools in China.

Such work as the school hopes to do should commend itself to every lover of mankind and to every active sympathizer with intelligent efforts to abolish remediable evil and relieve necessary suffering.

A tribute is paid to the Medical Missionaries "who in the various cities of the country give their time entirely to the Chinese people; and the Chinese officials, gentry and common people unite in grateful praise of the work of the missionary doctors."

The doctors in charge of the existing hospitals are doing a work worthy of the largest praise both from a humanitarian and

scientific standpoint. No longer are the energy and effort merely for creeds or doctrines but for a general enlightenment along all lines of modern progress. T. O.

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Public Health

Edited by Joseph D. Craig, M. D.

Department of Health, Albany, N. Y

Abstract of Vital Statistics, June, 1911.

Deaths.

Consumption	21
Typhoid fever	1
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	6
Grippe	0
Diarrhael diseases	14
Pneumonia	8
Broncho-pneumonia	1
Bright's disease	18
Apoplexy	4
Cancer	13
Accidents and violence	12
Deaths over 70 years	29
Deaths under 1 year	20
Total deaths	166
Death rate	20.18
Death rate less non-residents	17.26

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	14	6
Albany Orphan Asylum	1	0
Child's Hospital	1	0
County House	1	5
Homeopathic Hospital	4	3
Hospital for Incurables	2	0
Little Sisters of the Poor	1	0
Home for the Aged	0	0
House of Good Shepherd	1	0
Public places	1	1
St. Margaret's House	1	1
St. Peter's Hospital	5	2
Austin Maternity Hospital	0	0
Albany Hospital, Tuberculosis Pavilion	6	1
Confederation of Labor	1	0
Totals	39	19

Births	115
Still births	3

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	2
Scarlet fever	7
Diphtheria and croup	26
Chickenpox	2
Measles	2
Whooping-cough	0
Consumption	40
Total	79

Contagious Disease in Relation to Public Schools.

	D.	S. F.
Public School No. 10	2	1
Public School No. 12	....	1
Public School No. 15	1	.....
Public School No. 20	....	1
Public School No. 22	1	.....
St. Patrick's School	5	.....
St. Ann's School	1	1

Number of days quarantine for diphtheria:
Longest..... 60 Shortest..... 7 Average..... 18 6/11
Number of days quarantine for scarlet fever:
Longest..... 41 Shortest..... 9 Average..... 28 1/4
Fumigations:
Houses..... 49 Rooms..... 216

Cases of diphtheria reported	26
Cases of diphtheria in which antitoxin was used	25
Deaths after use of antitoxin	7

BENDER LABORATORY REPORT ON TUBERCULOSIS.

Positive		39
Negative		22
Failed		0
Total		61
Living cases on record June 1, 1911		348
Reported during June:		
By telephone	0	
By Bender	0	
By card	29	
	29	
Dead cases reported by certificate	7	
		36
		384
Dead cases previously reported	14	
Dead cases not previously reported	7	
Duplicates	....	
Recovered	....	
Removed	4	
Unaccounted for	....	
		25
Living cases on record July 1, 1911		359
Total tuberculosis death certificates filed during June, 1911		21
Out of town cases dying in Albany:		
Albany Hospital	1	
County Hospital	1	
St. Peter's Hospital	1	
		3
Net city tuberculosis deaths		18

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	22
Initial negative	41
Release positive	26
Release negative	74
Failed	51
Total.	214
Test of sputum for tuberculosis:	
Initial positive	36
Initial negative	20
Failed	4
Total.	60

BUREAU OF MARKETS AND MILK.

Market reinspections	125
Public market inspections	25
Fish market inspections	6
Pork packing houses inspected	1
Slaughter house inspections	7
Hide houses inspected	6
Rendering establishment inspections	3
Milk wagons in clean condition	18
Butter fats below 3%	....
Butterfats from 3 to 3.5%	3
Butter fats from 3.5 to 4%	14
Butter fats over 4%	1
Solids under 12%	....
Solids from 12 to 12.5%	4
Solids from 12.5 to 13%	6
Solids over 13%	8

MISCELLANEOUS.

Mercantile certificates issued to children	46
Factory certificates issued to children	34
Children's birth records on file	80
Number of written complaints of nuisances	54
Privy vaults	5
Closets	7
Plumbing	8
Other miscellaneous complaints	34
Cases assigned to health physicians	70
Calls made	193

Society Proceedings

Medical Society of the County of Albany

A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College on the evening of Thursday, January 26, 1911. The following members were present: Drs. Bernstein, Bedell, Corning, Colbert, Curtis, Cronin, Fromm, Gutmann, Hacker, C. G., Hacker, C. W. L., Harper, Herrick, Haswell, Kellert, Lewi, Lomax, C. H. Moore, Munson, Meyers, Page, Partridge, Papen, Jr., Rulison, Rooney, Reynolds. Vander Veer, E. A., Vander Veer, J. N.

The Secretary read the following communications from the Buffalo Academy of Medicine:

"Buffalo, N. Y., Dec. 31, 1910.

"E. Corning, *Secretary Medical Society, County of Albany, Albany, N. Y.:*

"Dear Dr. Corning.—I need hardly tell you of the importance to the medical profession of the proper conception of empidemic poliomyelitis. The subject is altogether too large for local health authorities to cope with. Dr. Eugene H. Porter, health commissioner of our State has undertaken the study and investigation of this disease and in order that he may do so in the most advantageously as well as thickly settled localities of our State special field investigators are essential. With that end in view a resolution similar to the one enclosed herewith was adopted at the annual meeting of the Medical Society of the County of Erie and the Buffalo Academy of Medicine.

"Will you see to it that your county society pass a similar resolution with such changes as you deem it best to make and have same forwarded to our State officials, to Dr. E. H. Porter, the commissioner of health in this State, to Dr. Frank Van Fleet, chairman of Committee on Legislation, Medical Society of New York, New York City.

"If you are no longer Secretary of your county society will you kindly hand this over to the proper official, thereby assisting in a worthy project and greatly obliging,

Fraternally yours,

L. Kauffman,

Secretary Committee on Epidemic Poliomyelitis,
Buffalo Academy of Medicine.

Resolution adopted at meeting of Buffalo Academy of Medicine, Dec. 28, 1910, in reference to State investigation of epidemic poliomyelitis:

Whereas, The disease poliomyelitis has appeared annually in epidemic form since 1907 in various localities of the State of New York.

Whereas, The commissioner of health of the State of New York, Dr. Eugene H. Porter, has made this disease reportable since August, 1910, and has provided for its investigation and study for which study field investigation in the affected localities by trained experts is essential.

It is therefore resolved by the Medical Society of the County of Albany at its stated meeting that his Excellency, Hon. John A. Dix, Governor of the State of New York be requested to recommend to the Legislature

of the State of New York, the appropriation of a suitable sum of money for the aforesaid study and investigation.

Be it further resolved, That a copy of this resolution be sent to his Excellency, Gov. John A. Dix, to the Senate and the Assembly of the State of New York, to each member of the State Legislature residing in the city of Buffalo, to the Committee on Legislation of the Medical Society of the State of New York, and to Dr. Eugene H. Porter, health commissioner of the State of New York.

On motion of Dr. James N. Vander Veer the matter was referred to the Committee on Legislation.

The following communication from the Provisional Committee on City Planning, was read:

"25 North Pearl Street, Albany, N. Y., Jan. 11, 1911.

"Dear Sir.—The Medical Society, Albany County is earnestly requested to co-operate in the movement to secure a city plan for Albany. A public meeting to discuss the matter will be held Tuesday evening, January 24th at the rooms of the Historical and Art Society, and will be addressed by Hon. Clinton Rogers Woodruff, Secretary of the National Municipal League. At the close of this meeting the official representatives of all the co-operating civic bodies of the city will meet to consider the formation of a central committee on city planning. The object of this committee will be to secure the harmonious co-operation of the civic bodies of Albany and it will not in any way supplant existing organizations.

"As this movement will affect every section of the city for many generations to come, it is of the highest importance that every organization interested in the welfare of Albany should co-operate. Will you at your earliest convenience kindly present the matter to your Executive Committee and appoint three or more representatives to take part in the City Planning Conference? Will you also invite all the members of your society to attend the public meeting?

"Very sincerely yours,
"John F. Montignani,
"James M. Ropes,
"Samuel H. Goldenson,
"Peter Nelson,
"C. G. Sewall,
"J. Townsend Lansing,
"William G. Rice,
"George E. Gorham,
"Peter Kinnear,
"Charles Gibson,
"John W. Woolett,
"Arthur Holding,
"William T. Byrne,
"Provisional Committee."

Dr. Bedell moved that a committee be appointed to represent the County Medical Society in this movement, and the President announced that he would name the committee at a later date.

The Secretary then read the following communication from the Medical Society of the County of Chemung:

THE MEDICAL SOCIETY OF THE COUNTY OF CHEMUNG,

ELMIRA, N. Y., Dec. 31, 1910.

"*Secretary of the Medical Society of the County of Albany:*

"Dear Doctor.—At the annual meeting of the Medical Society of the County of Chemung the following resolution was adopted:

"*Whereas,* The Medical Society of the State of New York in 1909 lost $6,053.09 in publishing the Tri-State Medical Directory and it loses a like amount each year.

"*Wheras,* If the State Society discontinued the publication of said directory it would save this annual expense, and as a consequence we could reduce our State dues. The State Society now receives three of the four dollars we each pay for annual dues.

"*Resolved,* That the Medical Society of the County of Chemung do all in its power to have the State Society discontinue the publication of the directory and that it instruct its State delegate to work for this measure.

"I have been instructed to send a copy of this resolution to the various county societies and ask their co-operation.

"Yours fraternally,

"CHAS. HAASE,
"*Secretary.*"

"Section three of the A. M. A. Medical Directory contains ten states including New York State, and sells for two dollars."

Dr. LOMAX referred to the speech of Dr. Curtis at the last meeting on this subject, and said that he thought Dr. Curtis' suggestions should be followed.

Dr. LEWI moved that the resolutions be laid on the table. Seconded and passed.

A case of chancre of the eyelid, treated with "606" was presented by Drs. A. J. Bedell and James F. Rooney.

Dr. FROMM: I saw yesterday at St. Peter's Hospital a case of specific iritis injected with "606" by Dr. Wiltse. He used the method suggested by Marx in which 500-600 milligrams of the powder are dissolved in 9 cubic centimeters of sterile water. To this is added 15 cubic centimeters of sodium hydrate. This causes a precipitate which redissolves on addition of more sodium hydrate.

Dr. MUNSON: I saw Dr. Wiltse's case about ten days ago. At that time he had a most pronounced iritis, with pin head pupil. Mercury was given at once, and also atropine, but no dilation of the pupil resulted. There was at that time a slight hemorrhage in the anterior chamber. I saw the case again this afternoon, the iris had dilated one-third, the anterior chamber was clearer. It is too early as yet to judge of the ultimate value of "606" but it is certainly a good addition to our stock of therapeutic measures. But we must not forget the good results obtained by the old methods. I call to mind one wonderful result from the use

of mercury alone. An engineer, blind in the right eye with a gumma of the iris. He was placed on mercurials, and in three months' time the gumma was gone and the vision was nearly 20/20.

Dr. J. N. VANDER VEER: "606" cannot be given indiscriminately. We must be sure that we have no nephritis already present. We must remember that the method is painful and that the solution is difficult to properly neutralize. The directions sent with "606" must be followed absolutely, and the patient should be in a hospital.

Dr. J. N. VANDER VEER read a paper entitled "Experience with the Wasserman Reaction." The discussion was opened by Dr. Bernstein who gave a summary of the present status of the reaction, pointing out the difficulties of applying and interpreting the test, the question of antibodies and the complement deviation test, and urging the necessity for controls.

Dr. MEYERS: I have had some personal experience with the Wasserman reaction, but none with the Noguchi modification. The difficulties in technique of the original reaction are many, and the strength of the complement and hemolysin should always be estimated. The Wasserman has been found positive in malaria, scarlet fever, pneumonia, aortic lesions and acute tuberculosis.

Dr. C. G. HACKER: I should like to congratulate the speakers of the vening on the thorough and scientific way in which they have presented these modern advances. The Wasserman test has been of great value to me, in some cases giving the correct answer to questions that involved entire families. I should like to ask Dr. Rooney about the occurrence of kidney lesions following injections of "606."

Dr. ROONEY: In the case shown to-night there has been no appearance of albumin, casts or blood. Dr. Fromm spoke of Marx's technique. I use Alt's technique because I believe it to be free from complications other than the local reaction. The other methods are toxic. The only reason for giving arsenic in solution is because you cannot give a suspension intravenously. Ehrlich has not advised against the use of a suspension; but he has advocated the use of acetic acid instead of hydrochloric acid for neutralization. I agree with what has been said to-night about the selection of cases. Hochst says that we must reserve "606" for cases which have proved refractory to mercury, but that seems rather a sweeping statement. It is true that the administration of "606" is attended with pain, but this is worst in the intra-muscular method and especially in alcoholics. The point has been made to-night that the Wasserman reaction is positive in conditions other than syphilis. To the list already given may be added leprosy, blastomycosis, trypanosomiasis and scarlet fever. This may have an important bearing on the question of etiology as leprosy is of bacillary origin, whereas some of the others are protozoan. Only fifty per cent of tabes cases give a positive reaction whereas in paresis one hundred per cent give a positive reaction at one time or another.

The meeting then adjourned.

JOHN H. GUTMANN, *President.*

ERASTUS CORNING, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

Albany Guild for the Care of the Sick—Department of Visiting Nursing.—Statistics for May, 1911.—Number of new cases, 177; classified as follows: Dispensary patients receiving home care, 8; district cases reported by health physicians, 4; charity cases reported by other physicians, 38; moderate income patients, 89; old cases still under treatment, 109; total number of cases under nursing care during month, 286. Classification of diseases for the new cases: Medical, 59; surgical, 10; gynecological, 4; obstetrical under professional care, mothers 46, infants 46; infectious diseases in the medical list 10, surgical list 2; removed to hospitals, 5; deaths, 11.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 3; number of new patients during month, 5; number of cases discharged, 5; visits by attending obstetrician, 2; visits by students, 30; visits by nurses, 51; total number of visits for this department, 83.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,539; for professional supervision of convalescents, 414; total number of visits, 1,953; cases reported to the Guild by two health physicians and forty-eight other physicians, graduate nurses 7, and pupil nurses 13 on duty.

Dispensary Report.—Number of clinics held, 76; number of new patients, 134; number of old patients, 322. Classification of clinics: Surgical, 15; eye and ear, 16; lung, 7; children, 11; nervous, 2; skin and genito-urinary, 5; medical, 11; gynecological, 8.

The American Orthopedic Association and the American Pediatric Society in reference to acute epidemic poliomyelitis, have addressed to health authorities and boards of health the following circular:

Anterior poliomyelitis is, so far as known, a communicable disease, being communicated from one patient to another and also by means of a third person. It occurs in epidemics and tends to spread along the lines of greatest travel. There is reason to believe that it is prevented from spreading by quarantine, and with the very great prevalence of the disease in the summer of 1910 it is the opinion of this committee that it is essential that it should be made a reportable disease in all states in order that its presence may be detected and its spread guarded against.

Of particular significance are the so-called abortive cases, where indefinite ailments occur in children in communities where frank paralysis also exists. These abortive cases of infantile paralysis are undoubtedly a source of infection, and their record and study is of much importance. In a community where cases of infantile paralysis occur cases of illness with sudden onset of fever and meningeal symptoms should be closely watched and regarded as possibly infectious. In such cases even recovery without paralysis does not establish the fact, that the case was not abortive infantile paralysis.

All cases of infantile paralysis should be strictly quarantined, sputum, urine and feces being disinfected, and the same rigid precautions being adopted as in scarlet fever.

THE AMERICAN NEUROLOGICAL ASSOCIATION.—The following resolutions adopted at the annual meeting of the American Neurological Association, May 13, 1911, represent the attitude of the Association on the question of medical expert testimony, as it affects the neurologists of this country:

Resolved: 1. That the methods of legal procedure in trials involving neurological testimony are inefficient, tedious and expensive; they fail to utilize effectively expert knowledge and skill and thus make it more difficult to secure justice.

2. That a fundamental reason for the criticisms of medical expert testimony lies in these faulty methods of the law, including the practice of building up cases, the misuse of the hypothetical question and the passing upon technical questions by juries.

3. That the judiciary should by legal enactment be allowed more latitude in enlightening the jury and enabling it to comprehend the nature and meaning of the medical testimony laid before it.

4. That we urge that the legal profession seriously endeavor to secure improvements in the lines indicated, chiefly and primarily in the interests of justice and because expert testimony is necessary, is helpful to justice and ought to be freely and effectively used in the courts.

5. That whenever possible the medical witness should testify only after he has had an opportunity to make both a mental and a physical examination of the person concerning whom the litigation is raised; and that equal rights should be accorded the medical witnesses for both the plaintiff and defendant in the examination of the person alleged to be ill, or injured.

6. That we consider the hypothetical question as ordinarily presented to be unscientific, misleading and dangerous.

7. That we recommend as advisable the adoption wherever possible of the so-called "Leed's method" of preliminary consultation by medical witnesses on both sides of the case as to its status.

8. That we advocate a freer use of appointments of commissions by the court.

9. That a period of hospital or similar form of observation of persons whose nervous and mental conditions are mainly subjective, is the best method for securing impartial and accurate opinions; also that we advocate the enactment in every State of laws favoring such method.

10. That it is the sense of the Association that it is inadvisable and objectionable for any of its members to occupy the position of medical advisory counsel in open court and at the same time to act as expert witness in a medico-legal case.

11. That we regard the acceptance by a physician of a fee that is contingent upon the result of a medico-legal case, as not in accordance with medical ethics and derogatory to the good repute of the profession, and advocate the regulation of the practice by legislation.

12. That we are in favor of action by medical organizations that will secure a definite standard of qualification for medical men giving expert testimony, such as the following:

That a physician should not be considered a neurological expert of the first class, unless he is a graduate of a reputable medical college; has paid special attention to the subject of neurology for at least six years; has had opportunities of laboratory and clinical study for at least four years, and is a member of some neurological society in good standing.

The Thirty-Seventh Annual Meeting of the Mississippi Valley Medical Association will be held at Nashville, Tenn., Tuesday, Wednesday and Thursday, October 17, 18, 19, 1911. The general meetings will be presided over by Dr. Robert H. Babcock, of Chicago, who, though blind, is one of the most eminent physicians in the country, having written two standard books upon diseases of the lungs and diseases of the heart and blood-vessels. Every word in each book Dr. Babcock wrote himself upon a typewriter. The first vice-president is Dr. Charles E. Barnett, of Fort Wayne, Ind., an eminent surgeon; the second vice-president is Dr. Arthur D. Holmes, of Detroit, a specialist on diseases of children. The vice-presidents will preside over the sections on Medicine and Surgery, before which papers upon timely subjects of interest to surgeons and general practitioners will be read and discussed.

A feature at each annual meeting is the evening when the annual address of the president is delivered, and an oration in medicine and surgery delivered by men eminent in these branches of practice. Dr. Babcock's address will be upon "Medical Tendencies;" the address in surgery will be delivered by Dr. Jos. D. Bryant, of New York, entitled "The Indebtedness of Posterity to the Pioneer Surgeons of the Mississippi Valley," and the address in medicine by Dr. J. C. Wilson, of Philadelphia, entitled "Doctors and the Public." These addresses will be open to the public and are always much enjoyed.

Among the celebrities who will attend are two English physicians, Dr. C. W. Suckling and Dr. D. Billington, both of Birmingham, who will take special part in a symposium upon the displacements of the abdominal organs. These gentlemen have been invited on behalf of the Association by Dr. Earl Harlan, of Cincinnati, O., who was delegated by the president, Dr. Robert H. Babcock, and the secretary, Dr. Henry E. Tuley, to centralize his efforts to the single purpose of arranging a specially strong symposium on the "Ptoses" and they are coming to this country specially to attend this meeting, sailing upon the Baltic, which arrives in New York October 13. They will be extensively entertained while in America. Among the entertainments being projected are special meetings of the Cincinnati Academy of Medicine by Dr. Harlan, and of the Jefferson County Medical Society, by Dr. Henry Enos Tuley, secretary of the Association.

State of New York, State Civil Service Commission.—The New York State Civil Service Commission will hold, on or about August 5, 1911, an examination for Superintendent of Syracuse State Institution for Feeble Minded Children. Open to men only. Salary, $4,000 a year, with maintenance for superintendent and his family. Candidates must be well-trained physicians, and should also have had experience in teaching and in administrative work. Subjects of examination and relative weights:

Practical questions on the duties of the position, object and methods of instruction, and management of institution, 5; experience, education and special training, 5. Credit will be given under "education and special training" for special training in the science of education, and under "experience" for successful teaching and administrative work, particularly in institutions of a similar nature. Open to non-residents, subject to the usual rules giving preference in certification to residents of New York State.

Application blanks may be obtained by addressing State Civil Service Commission, Albany, N. Y., and all applications must be filed with the State Civil Service Commission not later than July 28, 1911.

PERSONALS.—Dr. WALTER H. CONLY (A. M. C. '91), of New York City, has been appointed Assistant Superintendent of Bellevue and Allied Hospitals, New York.

—Dr. WILFRED L. HALE (A. M. C. '94), graduated from Crozer Theological Seminary at Chester, Pa., on June 7, 1911.

—Dr. ADELBERT S. DEDERICK (A. M. C. '06), is practicing in Rhinebeck, Dutchess Co., N. Y.

—Dr. WILLIAM H. CONGER (A. M. C. '08), is practicing at Madalin, Dutchess Co., N. Y.

—Dr. PHILIP C. HACKER (A. M. C. '10), has opened an office at 197 Second avenue, Albany, N. Y.

MARRIAGES.—Dr. LEO H. NEUMAN (A. M. C. '92), of Albany, N. Y., and Miss Edith Sheard, of Canton, N. Y., were married in Albany, N. Y., on June 1, 1911.

—Dr. DAVID KIDD (A. M. C. '07), of Troy, N. Y., and Miss Catherine Reynolds were married in Albany, N. Y., on June 16, 1911.

—Dr. GEORGE BIBBY (A. M. C. '10), of Pottersville, N. Y., married on June 18, 1911, Miss Jane Tobin, of Albany, N. Y.

DIED.—Dr. JOHN JEREMIAH VAN RENSSELAER (A. M. C. '59), a veteran of the Civil War, who had retired from active practice, died at his home in Swartswood, N. J., June 18, 1911, from heart disease, aged 75.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Differential Diagnosis. Presented through an Analysis of 383 cases. By RICHARD C. CABOT, M. D., Assistant Professor of Clinical Medicine, Harvard Medical School. Octavo of 753 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

The plan of this book is unusual and will doubtless attract many physicians. Differential diagnosis is made by the presentation and discussion of actual cases. The so-called presenting symptom, such as headache, for

which the patient may have consulted the physician, is taken as a clew and all pathological conditions which might give rise to such a symptom are considered. Tables have been compiled from a large number of cases, chiefly from the hospitals, and show graphically in the order of their frequency the diseases which may produce the leading symptom. The complete list of these is as follows:

Headache, lumbar pain, general abdominal pain, epigastric pain, right hypochondriac pain, left hypochondriac pain, right iliac pain, left iliac pain, axillary pain, pain in arms, pain in legs and feet, fevers, chills, coma, convulsions, weakness, cough, vomiting, hematuria, dyspnoea, jaundice, nervousness.

This clew is now "followed home until a diagnostic problem and its solution are presented."

Dr. Cabot says that diagnoses are missed because physical signs are not recognized and because we do not think correctly. I believe that diagnoses are missed—first, because we do not collect *all* the *necessary* data, from clinical history and physical, including so-called laboratory findings; second, that we do not consider *all* the *possible* pathological conditions which may produce these symptoms and signs; and third, that our reasoning in the process of elimination may be at fault. This plan of Dr. Cabot's should prove to be of considerable practical value in helping to train medical students to think, to force them to take the active rather than the receptive mood. This indeed is one of the advantages of all forms of case teaching contrasted with the usual text-books and didactic lectures. For the same reason it should fill a need as a method of graduate study by practitioners in their homes, as a "self quiz," or as part of a course of graduate instruction.

By this method alone, however, it is doubtful if more than an elementary, even though practical knowledge can be gained. Very often there may be no leading symptom or the so-called leading symptom may be so misleading that if taken for a clew it is apt to prejudice the physician and obscure and hinder rather than aid in the correct diagnosis.

It is for this reason that some men, in certain cases, collect all the physical data before questioning the patient, for undue attention may be paid to the present and chief complaint before the correct diagnosis has been made.

A student is very apt to learn "*by heart*" and in a more or less "*parrot-like*" way the causes of headache, hematuria, etc., without forming a mental picture of the underlying pathological processes which cause the symptoms and physical signs and upon which successful or at least scientific surgical and medical treatment depends.

Although there is no doubt that in many cases much aid may be given by considering the various causes of the leading symptom and that such study may raise the general standard of diagnoses yet it can cover but a limited range, chiefly of the common diseases. It also has a finality which is not conducive to a spirit of investigation and does not lead the practitioner to seek for new, more unusual and atypical cases and thus advance our knowledge of clinical medicine.

There is much however that is helpful in this book of Dr. Cabot's and

it may be highly recommended to students and practitioners in the hope that it may be used to supplement but not supplant the more arduous and older method of studying pathological findings in their relation to clinical data. T. O.

Medical Diagnosis, a Manual for Students and Practitioners. By CHARLES LYMAN GREENE, M. D., St. Paul, Professor of Medicine and Chief of the Department in the College of Medicine, University of Minnesota; Attending Physician, St. Luke's Hospital and the City and County Hospital; Chief of the Medical Clinic in the University Hospital; Member of the Association of American Physicians, The American Therapeutic Association, American Medical Association, Author of "The Medical Examination for Life Insurance and its Associated Clinical Methods," etc. Third Edition, Revised, with 7 colored plates and 248 illustrations. Philadelphia, P. Blakiston's Son and Co., 1910.

This well-known handbook now appears in its third edition. It has been thoroughly revised and to some extent remodeled. Some illustrations have been added. It is fully up to the standard set in the earlier editions as a book designed to be "most generally useful to the overtaxed student and general practitioner." Though not designed to take the place of larger and more elaborate works upon the subject it is far more than a compend. Through the elimination of unproven theoretical and unessential details it has been made concise and practical and is fairly complete. The text is clearly written in a pleasant but authoritative style. Interesting case references are here and there interspersed. There are a few omissions noted and a few statements made with which the reviewer does not entirely agree.

The marginal notes, running page headlines, and clearly headed paragraphs increase its practical usefulness. The illustrations are small in size but well selected and clear; the diagrams, of which there are many, especially in the section devoted to the heart, are excellent, clear and to the point; many are original in conception. The plates are only fair.

The small size of the pages and the consequent thickness of the volume make it rather bulky and unhandy to hold, though this is in part compensated for by easy opening made possible by the loose binding and the semi-flexible cover.

On the whole it is a most excellent and useful book. C. K. W., JR.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on Treatment, Medicine, Surgery, the Specialties, and other Topics of Interest to Students and Practitioners, by leading members of the Medical Profession throughout the World. Edited by HENRY W. CATTELL, A. M., M. D., Philadelphia, U. S. A. Volume I. Twenty-first series. 1911: J. B. Lippincott Company, Philadelphia and London. Price, $2.

As usual, Volume I of the new series contains a resumé of the Progress of Medicine during the preceding year (1910), dealing with the subject under the following heads: *Treatment, Medicine,* and *Surgery.* Beside

this survey of last year's work there are several very readable articles, among which we would mention "The Treatment of Typhoid Fever" by Thomas F. Reilly. The writer deals with the problems of diet, medication, bathing, stimulation, hemorrhage and perforation.

"The Development of the Sphygmomanometer and the Method of its Use" by Francis A. Faught, a descriptive article, well illustrated, of the various types of blood pressure apparatuses and helpful to one contemplating the purchase of such an instrument.

"The Open, or Surgical Treatment of Fractures" is a plea by C. P. Thomas for the more frequent use of plates and wire in the treatment of fractures, especially those of the upper and lower end of the femur, middle third of tibia (when not transverse), patella, humerus, clavicle (near either end), fore-arm and lower jaw.

"Mosquito Work in the Canal Zone" by J. A. Le Prince is a communication of great interest dealing with the U. S. Government work in Panama since 1904. The author divides his subject into Stegomyia Work and an Antimalarial Campaign. The illustrations are enlightening.

H. D. C.

SURGERY

Edited by Albert Vander Veer, M. D., and Arthur W. Elting, M. D.

Concerning the Efficiency of the Positive Pressure Method in Thoracic Surgery with the Description of a New Apparatus.

J. M. Flint. *Yale Medical Journal, February,* 1910.

After discussing the difficulties that attended the early attempts at operations within the thorax, the author presents a critical review of the work of Sauerbruch, Brauer and others, which led to the development of the various forms of apparatus now in use for maintaining pressure difference. The Sauerbruch apparatus, as is well known, in principle, allows the operator and his assistant to get inside the patient's thorax, while maintaining the inflation of the lungs. This was accomplished by a cabinet, large enough for the operator, assistant, table and armamentarium, into which the body of the patient was laid with his head outside and an air-tight rubber collar around his neck. A negative pressure of approximately 7 m. m. mercury was obtained by means of a pump. This negative pressure was found sufficient to maintain inflation of the lungs with an open pneumothorax.

In the course of his experiments Sauerbrauch also showed that collapse of the lungs could be prevented by putting the anæsthetist and patient's head in the chamber and using positive instead of negative pressure, that is to say, by increasing the intrabronchal pressure above that of the atmosphere, the lungs, even in the presence of an open pneumothorax, are likewise prevented from collapsing.

After a series of experiments with the two methods, Sauerbruch, the discoverer of both, abandoned the positive pressure method and conducted his work under negative pressure. The reasons for his preference for a minus pressure differential were as follows:

Under plus pressure. 1. The opposite lung is under positive pressure and expansion is more difficult. 2. Pressure in the alveolar capillaries is much increased, and in consequence extra work thrown on the right heart. 3. The body surface and great veins are under the same pressure, hence there is a failure of the normal aspirating action of the right heart in promoting the circulation. The effect of these two factors is to produce a venous stasis which can be measured with a manometer in the femoral vein, and is stated by Sauerbruch to reach 10 m. m. of mercury.

Brauer of Marburg became interested in positive pressure largely because of the physical difficulties involved in the use of the Sauerbruch chamber. Brauer believed that the small amount of plus pressure necessary to maintain the distention of the lungs, namely, approximately 10 c. m. of water, is not sufficient to cause any serious disturbance with the circulation, and regarded the suction of the heart during diastole as sufficient to overcome any venous statis established by the atmospheres on the great veins or the plus pressure on the alveolar capillaries. Brauer first used a Waldenburg mask with an equalizing bag inserted in his circuit and derived his pressure from oxygen tanks. Later he constructed a head chamber for the patient with air-tight armholes for the hands of the anæsthetist's assistant. The pressure was derived from a water pump, while chloroform was administered from a Roth-Drager apparatus.

Since the introduction of these two fundamental principles in thoracic surgery for the elimination of the effects of an open pneumothorax, there have been a great many different types of apparatus, especially for the application of the positive pressure principle.

Theoretically the author believes it has been pretty well demonstrated that there is practically no difference between the physiological effects of the abolition of an operative pneumothorax by the positive and negative pressure differential methods. The great expense of constructing the negative pressure chambers, and the difficulty of getting them ready for use, are obvious defects of so cumbersome an apparatus. Therefore, Flint believes that if thoracic surgery is to be popularized and made possible outside of large hospitals it can only be by some application of the plus differential or the Melzer-Auer method. The failures in the application of the positive pressure method, the author believes to have been due largely to the faulty types of apparatus rather than to the method itself, and he has therefore constructed a new apparatus embodying the factors which were thought most essential, namely, absolute control of the anæsthetic, metal construction to avoid possibility of a breakdown and as great simplicity as is compatible with the two preceding conditions. He presents a complete description of his apparatus, with illustrations, and records thirteen experiments upon dogs to test its efficiency. These experiments consisted in resection of one or both lungs or complete removal of one lung. There were only three deaths in the series and none of these the author believes could be traced to the method of maintaining the pressure differential. The following conclusions are drawn from this study:

1. The positive pressure method of maintaining the normal pressure difference is the practical as well as the physiological equivalent of the negative pressure method in thoracic surgery.

2. Total pneumectomies in dogs may be done as successfully by the positive pressure as by the negative pressure method, provided that the intercostal incision is closed in such a way as to prevent a pressure pneumothorax. This can be accomplished by the use of an equalizing tube which is withdrawn in expiration after raising the intrapulmonic pressure.

3. By the use of an aspirating apparatus with a water valve regulator, any desired degree of negative pressure can be restored to the thorax after operations carried out by the plus differential method or the Meltzer-Auer procedure. This converts, in effect, any positive pressure apparatus into a negative pressure apparatus.

4. More than half the lung tissue in dogs may be removed. Bilateral lobectomies can be done in two sittings.

5. Opening the pleura does not have any regular influence on the respiratory or cardiac rhythm. Ligation of the root or removal of the lobes tends either to reduce the rate of both pulse and respiration or else to show no effect whatever in the majority of instances. Closure of the pleura causes an increase in the rate of both pulse and respiration in the majority of cases.

Discussion of Nephrotomy by the Silver Wire Method, with Report of Two Cases.

E. H. RICHARDSON. *Johns Hopkins Hospital Bulletin, March,* 1910.

The writer states that the operative technique in renal surgery has been developed mostly with reference to the control of the extrinsic renal vessels and comparatively little attention seems to have been paid to the intrinsic vessels. Yet exploration of the kidney or nephrotomy is one of the commonest of all operations upon this organ. Hemorrhage is, of course, the chief source of danger and surgeons employ various devices for its control. One of the commonest is to expose the hilum, and completely shut off the renal circulation, temporarily, by compressing the renal vessels. Another is to use blunt instruments in opening the pelvis through the cortex so that the large vessels will be pushed to one side.

Brödel's contribution on the intrinsic vessels of the kidney has been most important from a surgical standpoint. He has shown that three-quarters of the blood supply of the kidney pass anteriorly over the pelvis to reach the kidney proper and one-quarter pass posteriorly. The arteries are end arteries and there is no arterial communication between the two divisions. The veins of the two divisions anastomose with each other about the base of the pyramids and around the necks of the calices and through these channels all the larger collecting veins leave the kidney anterior to the pelvis. There are certain surface markings which usually enable the surgeon to determine fairly accurately the location of the planes of arterial division.

Basing their work upon the anatomical facts established by Biödel,

E. K. Cullen and Derge experimented on dogs to determine whether the bleeding would be less in nephrectomy if silver wire was used instead of a knife and the kidney was opened from within outwards. These experiments showed that the bleeding was much less.

The writer reports two cases operated upon by this method. In the first case a nephrotomy was done in a solitary kidney, the other one having been removed eight years before for renal tuberculosis. The indications for the present operation were repeated attacks of renal colic. The X-Ray and wax-tipped catheter were negative; no evidence of a calculus was detected. The enlarged kidney was delivered and bisected by means of a silver wire. It was first introduced by a long needle from the lower pole and not a little posterior to the mid-point of the convex border. By means of a sawing motion the lower half of the kidney was laid open. By reinserting the needle the upper pole was bisected and the entire organ laid open like a book. There was very little bleeding, although the vessels of the hilum were not compressed. Unfortunately nothing was found to account for the renal crises. The two halves were brought together and united by a few mattress sutures of catgut. The patient recovered.

In the second case the X-Ray and wax-tipped catheter were also negative. Normal urine was obtained from the left kidney and purulent urine from the right. The right kidney was delivered and transfixed from pole to pole by means of a long needle carrying a silver wire. The kidney was opened as described. At several stages great resistance was offered to the silver wire in bisecting the organ. The kidney contained several abscesses and the dense fibrous tissue about these offered resistance to the silver wire. Large vessels were torn by the force necessary to split the kidney and greater bleeding was encountered than had the kidney been opened from within outwards by a knife. A nephrectomy was indicated and the kidney was removed. The patient recovered.

These two cases demonstrate the value and limitations of this method. Its great value lies in the splitting of kidneys which have very little change in their tissue. If abscesses are present or fibrous tissue, it may be necessary to use strong traction on the wire and great damage may be done to the healthy renal tissues and hemorrhage will be greater than had a knife been used.

Permanent Biliary Fistula and Osteoporosis in Men (Permanente Gallenfistel und Osteoporosis beim Menschen).

Hans Seidel. *Münchener medizinische Wochenschrift, No. 39, 1910.*

In this article the writer describes a symptom complex which has hitherto only been observed in the lower animals.

In 1905 Pawlow observed certain peculiar disturbances which developed in dogs with biliary, pancreatic, or intestinal fistulæ. Dogs that were previously sound and healthy a few months after the establishment of the fistulæ became inactive and moved around with more or less difficulty and finally would make scarcely any effort at movement at all. The appetite remained good. At autopsy a very striking softening of the bones

was noticed which was so pronounced that the vertebræ could be cut with a knife. The same was true of the ribs, shoulder blades and skull.

In 1907 Looser, by a similar experiment on dogs, studied carefully macroscopically and microscopically the condition of the bones. The bones presented miscroscopically a very pronounced atrophy and the new bone formation was much restricted.

The writer reports two cases observed in human beings which present characters similar to those observed in the dogs. The first case was one carefully studied by Schmorl and was that of a woman fifty-five years of age who had a biliary fistula for three and a quarter years, due to an impacted stone in the mouth of the common duct. The patient died and an autopsy was performed and careful studies made of the bones. A very pronounced osteoporosis of the entire skeleton was observed characterized by a marked increase of the absorption of the bone while the new bone formation remained practically normal. The processes were distinguished from the senile osteoporosis in that in the latter, the bone absorption is practically normal while the bone formation is much restricted. Among other interesting facts developed at the autopsy were evidences of fractures of several ribs without, however, any clinical evidence from the patient's history of their occurrence.

The second case was one of a woman fifty-seven years of age, who for a period of more than three years had suffered from a permanent biliary fistula. During this time marked changes had taken place in the bony skeleton associated with pains along most of the bones. It became more and more difficult for the patient to walk and distinct coxa-vara developed as well as marked kyphyo scoliosis. The patient rarely left her room and was compelled to make use of canes and crutches when she moved about. At the end of about three and one-half years the discharge of bile into the intestine was again established in a fairly normal manner and shortly after this the patient's general condition began to improve. The pains disappeared and locomotion became very much easier.

The writer discusses the differential diagnosis from senile atrophy, osteo malacia and other similar conditions and satisfactorily rules them out. The clinical picture which he reconstructs is that in the course of a long existent biliary fistula, pains in the muscles and limbs together with a depression of nutrition develop. Changes take place in the skeleton which lead to more or less interference with locomotion. The bones may become somewhat deformed. The process consists of an osteoporosis in which there is a marked increase of bone absorption. Spontaneous fractures may develop. In case the fistula is corrected, a marked improvement in these conditions may be observed. The question as to the cause of the changes in the bones under these conditions is the subject of considerable discussion and the writer believes that it is due to the removal through the discharge from the fistula of some substance which maintains the equilibrium between bone formation and bone absorption.

The practical side of this question is very evident and indicates that every effort possible should be made to prevent the long existence of a biliary fistula.

A Preliminary Report of the Use of Animal Membrane in Producing Mobility in Ankylosed Joints.

WILLIAM S. BAER. *The American Journal of Orthopedic Surgery, Vol. VII, No. I.*

The author first discusses the various methods and materials that have been used in the production of mobility in ankylosed joints. These include beside resection, the interposition of various substance between the articulating surfaces. A muscle flap from a muscle contiguous to the joint has been preferred by most surgeons. Murphy, among others, has urged the use of a flap of fascia covered with a good layer of fat and reports some good results. Others, disappointed with the results of muscle flaps used non-absorbable material of zinc, rubber, celluloid, silver and layers of collodion. Absorbable flaps of decalcified bone, ivory, and magnesium have likewise been employed and with better results than with the non-absorbable material, but on the whole, not satisfactory. The author, convinced that there are serious objections in the employment of any of these methods undertook to find an absorbable material which was thin and pliable enough to allow of easy adjustment within the joint and which would remain there beyond the period of new bone or fibrous formation.

The membrane which he has used is from the pig's bladder, and is chromicised so as to remain intact about forty days. The following is a brief synopsis of eight cases treated by the author by the use of animal membrane in the last year and a half.

Case I. Boy aged twenty-one years, gonorrheal arthritis, duration, one year. Complete bony ankylosis. Insertion of Cargile membrane. Motion of 10 degrees only after thirteen months.

Case II. Woman aged fifty years, septic arthritis of left knee. Insertion of Cargile membrane. Recovery without motion.

Case III. Boy aged six. Tuberculosis of knee and tendon. Sheath of the wrist. Insertion of Cargile membrane into the knee for mobility with the result of starting up the tuberculous process. A stiff knee resulted but in better position, three months after operation.

Case IV. Boy aged six and one-half years. Tuberculosis arthritis of both hips. Duration four years. Both hips ankylosed. Insertion of chromicized pig's bladder with a gain in flexion of 35 degrees and corresponding gain in abduction and adduction, two months after operation. Possible flexion to a right angle, eight months after operation.

Case V. Child four and one-half years old. congenital synostosis of radius and ulna. Mobility of 110 degrees produced by the introduction of chromicized pig's bladder.

Case VI. Girl fourteen years of age. Tuberculosis of the knee of ten years' duration, with complete fibrous ankylosis. Arthrotomy and insertion of chromicized bladder and recovery of function of 75 degrees.

Case VII. Girl with tuberculosis of right hip. Duration, six years. Complete bony ankylosis and deformity of 90 degrees flexion, 20 adduction and 15 of internal rotation, and now has motion to the extent of

50 degrees flexion, 30 abduction, 10 adduction, and good rotation in and out, 156 days after the operation.

Case VIII. Gonorrheal arthritis in a boy of twenty with complete ankylosis of knee and hip for three years. An arthrotomy of the left knee joint with introduction of the membrane was performed with the result of 35 degrees of active flexion forty days after operation.

It is to be noted in a comparison of these cases that where simple Cargile membrane was used, no permanent motion was obtained, owing, as the author states, to the fact that the Cargile membrane is absorbed in a period of ten to fifteen days. In the cases where the chromicized pig's bladder was used, a membrane which remains intact at least for thirty days, a permanent amount of motion resulted in each case. The author therefore concludes that the entire success of the operation depends upon the character of the membrane used. In the first place it should be absorbable, secondly, it should remain intact from thirty to forty days. Thirdly, it should be pliable enough to be adapted to the contour of the joint.

Every raw surface should be separated by it from that with which it would normally come in contact.

The membrane should have body enough to prevent its tearing, and it should be firmly held in place by absorbable sutures.

The Operative Treatment of Gastric Crises (Die operative Behandlung gastrischer Krisen Foerstersche Operation).

O. Bruns and F. Sauerbruch. *Mitteilungen aus den Grenzgebieten der Medizin und Chirurgie, Band 21, Heft 1.*

Foerster has advanced the view that resection of the posterior roots will relieve some of the very serious symptoms of tabes. Foerster believes that the primary sensory irritation is the cause of gastric crises. Furthermore he found a striking hyperesthesia of the skin over the lower part of the thorax and the upper part of the abdomen, especially during the attack. He therefore believes that the sensory irritation is the essential feature and that hyperesthesia and hypersecretion are simply concomittant symptoms. According to this view the most important features of gastric crises should disappear if the sensory tracts are interrupted. The sensory fibers of the stomach, according to Head, pass from the sympathetic to the cord through the seventh to the ninth posterior dorsal roots.

Based upon these conclusions of Foerster, Küttner resected the seventh to tenth posterior dorsal roots in a case of tabes with very severe gastric crises. The operation was done at two sittings; there were no further attacks after the operation and the patient gained rapidly.

The writers report the case of a man forty years of age, who had suffered with tabes for several years and who, for eighteen months prior to operation, had been practically incapacitated by the gastric crises; had lost fifty-eight pounds in weight, and who was, at the time of the operation almost in extremis. Unlike Foerster's case, the crises in their pa-

tient were not accompanied by hyperesthesia. There were at times also associated crises of the intestines and on several occasions fecal vomiting and during the year previous to operation the patient had not been free from pain for a single day. Every known method of treatment had been employed without avail. At the operation they exposed the dorsal vertebræ from the sixth to the tenth and removed the spines and opened the spinal canal over this area. The dura was carefully incised and the edges of the dura held apart with silk sutures. The posterior roots were severed with very delicate scissors; and but very little bleeding was encountered. The seventh and eighth and ninth posterior roots were thus severed and the dura closed with fine silk and the wound closed in the usual manner. Because of the extremely depleted condition the patient was in a very serious state during most of the operation. He gradually recovered, however, and was completely relieved of all his discomfort. Six weeks after the operation, he had gained forty-five pounds; could eat all kinds of food and felt, so far as his abdomen was concerned, perfectly well. Some months subsequent to the operation, following an ingestion of an excessive amount of sour milk, he had an attack of abdominal pain, which, however, both from his point of view as well as that of the writers', did not simulate the gastric crises and was believed to be the result of intestinal disturbance.

The writers conclude that the so-called Foerster operation is of the greatest benefit in severe cases of gastric crises, which do not yield to other methods of treatment and in which the patient's sufferings are sure to lead to death. Because of the extremely depleted condition of these patients, they regard the operation as necessarily serious, but under the proper conditions, justifiable.

On Massage of the Heart in Cardiac Arrest during Anæsthesia, with Notes of a Successful Case.

Alexander Miles *Edinburgh Medical Journal, January,* 1911.

The operation to which the patient was subjected was an abdominal section for ulcer of the duodenum. The anæsthesia, for which chloroform was used, occupied about thirty-five minutes, when the movements of respiration stopped, the oozing from the divided vessels ceased, the face became deadly pale, and the pupils dilated widely. The pulse at the femoral was imperceptible, and the patient was to all intents and purposes dead.

The author then undertook the resuscitation of the patient as follows: "The peritoneal suture was unlaced sufficiently to admit my right hand into the abdomen, and with it I grasped the heart, which was felt through the relaxed diaphragm as a large, firm object having a consistence very like that of the liver. It was perfectly still. After squeezing it firmly once or twice I recognized that it was being emptied, as it became softer and more flaccid, but no contraction of its muscle could be detected. The right hand was then withdrawn, and the left introduced and laid flat against the heart, while with the right hand firm pressure was made over the lower part of the chest, and it was at once evident that the compression of the whole heart was being effected more satisfactorily.

After several compression movements had been made a faint tremor was felt in the heart muscle, and after a few more a series of small tumultuous contractions took place. These were repeated several times before the heart began to beat rhythmically. At first there were several regular forcible beats, followed by a number of small inco-ordinated contractions, but gradually the beat became fuller and more regular, although it was abnormally slow.

"With the restoration of the circulation the other alarming symptoms passed off; the pupils became smaller, the conjunctival reflex returned, the muscles became rigid again, and in a few minutes the danger was past.

"On the night of the operation the pulse was 106—the highest point it reached during the convalescence. The patient made a normal recovery and is now in good health.

"*Comments.*—(1) In this case the heart was evidently paralyzed by over-distension, and the mechanical emptying of its cavities enabled it to resume its functions. It is possible, of course, that the compression effected by properly directed movements of artificial respiration might eventually have had the same effect, but the pressure being less direct, the results would neither have been so speedily nor so certainly attained.

"(2) My experience in this case has led me on several occasions to compress the heart through the diaphragm, when, during an intraperitoneal operation, signs of cardiac embarrassment have been manifest. In one case alarming symptoms rapidly passed off after the heart had been compressed several times, and in others I believe they were averted.

"(3) When the primary operation involves opening of the peritoneal cavity, this method of relieving an embarrassed heart has obvious advantages, and may be had recourse to without delay. When difficulties arise during an operation on some other part, however, and particularly if the field of operation is infective, some moral courage is required to adopt it, except as a last resort. In view of the extreme gravity of the patient's condition, and of the increasing number of cases in which direct massage has proved successful, it seems justifiable under the circumstances to take considerable risks.

"The weight of evidence afforded by recorded cases seems to show that the method adopted in the above case is superior to that of exposing the heart by resecting the costal cartilages and compressing it through the pericardium. My own experience of this latter procedure is limited to one case, in which no appreciable benefit was obtained."

MATERIA MEDICA AND THERAPEUTICS

Edited by Spencer L. Dawes, M. D.

Salicylic Acid and Its Derivatives: A Comparison of Their Respective Therapeutic Value.

Pierre Barbier. *Folia Therapeutica, January,* 1910.

After discussing at some length the drawbacks incident to the use of the salicylic acid and its older preparations, the writer notes the fact that notwithstanding the fact that acetyl-salicylic acid (aspirin) is exempt

from most of these it does produce exhaustive sweating and has been known to occasion gastric uneasiness and pain. Another salicylic acid derivative, diplosal is a salicylic ether of salicylic acid, being two molecules of the acid from which has been taken one molecule of water; it may be regarded as salol from which the phenol has been subtracted and to which salicylic acid has been added.

Physiologic experimentation has showed that it is the least toxic of any of the salicylic acid derivatives, is tasteless, is not depressing, and has a much more marked analgesic action in rheumatism than any of them. The article may be summed up as follows:

As sodium salicylate only reacts by virtue of the salicylic acid which it liberates, it is more logical to use salicylic acid itself as recommended by Stricker.

In view of the susceptibility of the digestive tract to salicylic acid, it is desirable to substitute derivatives of the acid which are more easily tolerated, yet possess the same activity.

Diplosal, not decomposing until it reaches the intestine where it is perfectly tolerated, and not causing profuse perspiration, would seem to be superior to aspirin. Its rapidity of action and analgesic effect in acute rheumatism are very marked, more so than any other derivative of the acid named.

Mucous Colitis Considered as a Nervous Disease, with Special Reference to Treatment.

Francis Hernaman-Johnson. *The Practitioner, November,* 1909, *p.* 706.

While there are various organic colon diseases accompanied by mucoid stools, the disease known as "mucous colitis" constitutes a distinct morbid entity and is undoubtedly of neurotic origin. The nervous factor not being well understood, the unfortunate sufferers are still dieted, starved, and clystered without avail. Among the many special features which lead us to classify this disease as a neurosis the author places emphasis on three factors: a "nervous" temperament, chronic constipation, and a period of prolonged mental stress.

The pitfalls of diagnosis are discussed, with special referrence to organic disease and therapeutic measures are then considered.

For temporary relief of the acute attacks morphine appears to be the only drug that gives satisfactory results. This drug should not be resorted to until the motions cease to have a fecal odor and pure mucous begins to be passed., It is best exhibited in the form of a suppository and should be attended by rest in bed, heat to the abdomen, and a milk diet. In the general treatment the patient should be assured that he has no organic disease, that he can be relieved, and the obsession that salvation lies in diet should be banished from his mind. Wholesome, ordinary diet is all that is required, the main thing being to avoid overloading. The food should be neither very hot or very cold, and as red wines and fruit of an acid nature set up undue peristalsis, they should be forbidden. All locally acting remedies, such as bismuth, preparations of tannic acid, intestinal antiseptics, and digestive ferments, are useless, as is colon lavage. The bowels should be moved each day, enemeta being alternated

by mouth medication, violent purgation being avoided. Cod-liver oil or iron are useful as general tonics. Opium is of much use for patients compelled to take part in social or business affairs, every care being taken to avoid inducing the habit.

Appendicostomy performed with a view of securing thorough irrigation of the colon is unjustifiable.

Moderate exercise, change of scene, massage and farradism over the bowels, cold douching, and abdominal gymnastics are of benefit, and it should be impressed upon the patient never to neglect the calls to stool.

PSYCHIATRY

Edited by G. Alder Blumer, M. D.

A Case of Brain Tumor with General Paralysis (Ein Fall von Hirntumor bei Paralyse).

RUBLE. *Zentralblatt für Nervenheilkunde und Psychiatrie,* 1909, *Heft* 7, *April.*

Cases of brain tumor associated with general paralysis are very rare. The symptoms of general paralysis may obscure those of the tumor and the difficulty of diagnosis during life is great. In one class of cases, such as cited by Lewenstein, the clinical history leaves doubt as to whether the lesions are those of general paralysis or tumor. Cornu proposed the diagnosis of "tumorparesis," for a case which presented ambiguous symptoms. The course of the disease justified the diagnosis of general paralysis, but a small tumor was found in the Rolandic region, and the miscroscopical examination showed the mental symptoms to be due to incidental changes rather than typical lesions of general paralysis.

Rühle's case was one in which during life the presence of the tumor could not have been determined. The patient, a man of fifty, had had a heat prostration and a venereal infection. His wife died three years before of general paralysis. He was dull when admitted to hospital, in 1907, and remained quiet, with sluggish pupils and slightly increased reflexes. Two months later he was transferred to the mental hospital, very stupid, and happy; with incontinence. He became helpless, with loss of light reaction, indifference to cleanliness, fibrillary tremors of face and characteristic defects of handwriting. At the end of a year he died. Section of the brain revealed, beside the characteristic macroscopic appearance of general paralysis, chronic leptomeningitis, dilation of the ventricles, granular ependyma, atrophy of the convolvutions—a relatively fresh pachymeninsitis and a tumor of the frontal lobe. This was at the base near the medium line, at the left, and attached to the left hemisphere, and of the size of a small apple. It was a spindle-celled sarcoma.

At the site of the tumor the cortex was atrophied, the cells lightly stained, the chromatin net scarcely perceptible, and the vessels numerous and infiltrated.

The tumors hitherto reported in connection with general paralysis have arisen from the pia. This case is worthy of note in that the growth involved the hemisphere itself.

The Wossermann Reaction in the Blood and Cerebrospinal Fluid, and the Examination of the Cerebrospinal Fluid in General Paralysis and Other Forms of Insanity.

WINIFRED MUIRHEAD. *The Journal of Mental Science, October,* 1910.

Thirty-five cases of general paralysis and seventy-seven cases of other psychoses were subjected to the test.

In the cases of general paralysis, the serum was positive in 76.7 per cent., the cerebrospinal fluid in 71.4 per cent. and a partial positive reaction was obtained in the spinal fluid in two instances. In other psychoses the Wasserman reaction was negative in 98.7 per cent., and in one case where insanity was associated with Addison's disease with marked tuberculosis, a partial positive reaction was obtained in both the serum and spinal fluid.

The conclusions are:

(1) The Wasserman reaction has been found positive in the blood serum and spinal fluid in a large percentage of cases of general paralysis and negative in all other cases of insanity examined, therefore its presence is a valuable addition to establish the diagnosis of general paralysis, but its absence does not negative that the case in question may be one of this disease.

(2) The proteid reaction, more or less marked, is present in all cases of general paralysis, and was obtained in sixteen out of seventy-five cases of other psychoses, although the intensity of the reaction was much less marked. It must be concluded, therefore, that this reaction is not absolutely specific for general paralysis, and demonstrates that in other insanities chemical changes are present in the cerebro-spinal fluid.

The quantity of proteid in the spinal fluid is much increased in general paralysis compared with any other type of insanity.

(3) An increase of lymphocytes was found constantly present in general paralysis and in no other case of insanity examined; thus, according to these observations, the presence of a lymphocytosis is the most reliable sign of this disease.

(4) The substance reducing Fehling's solution, although varying in its power of reduction was never absent in all cases of insanity examined.

A Contribution to the Prognosis of Dementia Præcox (Betrag zur Prognose der Dementia præcox).

EMIL MATTANSCHEK. *Jahrbücher für Psychiatrie und Neurologie, XXX Band, I Heft,* 1909.

This contribution has been tabulated by the writer so that the different conditions may be expressed numerically. Of 220 cases of dementia præcox 53 occurred between the ages of fifteen and nineteen, 100 occurred between the ages of twenty and twenty-four, 47 between the ages of twenty-five and twenty-nine, and 20 occurred between the ages of twenty and thirty-four. Of these cases 72 were in military service

and 148 were in civil life. In a table showing the different forms of dementia præcox, 56 cases were of the hebephrenic variety, 69 were of the depressive paranoid form, 45 had catatonic symptoms, 28 were cases of the paranoid form. The percentage of recoveries at the different ages varied from two and three-tenths in the cases under twenty years to twelve and five-tenths in those above thirty years of age. The hebephrenic form gave the lowest per cent. of recoveries. As to the different races, twenty-five per cent. of the Germans recovered, eighteen per cent. of the Slavs, and six and one-tenth per cent. of the Jews. From this statistical study the principal deductions are as follows:

1. Direct hereditary taint of mental disease appears to give an unfavorable prognosis in cases of dementia præcox.
2. Cases which devolp in an acute or subacute manner will probably reach a favorable outcome.
3. Cases occurring in military service usually take a favorable course.
4. The individual constitution is not without its influence upon the course and result of a case of dementia præcox.
5. Other things being equal, German patients gave a better prognosis than the Jewish race, in whom the disease seemed to take a decidedly more unfavorable course.

Concerning Traumatic or Concussion Psychoses (Ueber traumatische concussions Psychosen).

Ernst Frömner. *Zeitschrift für die gesamte Neurologie und Psychiatrie, Band III, Heft 5.*

The literature of mental disturbances arising from injury shows considerable fluctuation in the estimate of the importance of traumatism in producing mental disease. In the days of Griesinger and Meinert, concussion of the brain was given a very important place in the etiology of many acute mental disturbances, particularly those characterized by maniacal excitement and active hallucinations. The same was true of the etiology of neurasthenia, which in many cases was traced back to the accidents of childhood, where the ground-work of the neuropathic disposition was held to be found in blows and accidents. Traumatic locomotor ataxia and general paresis were also given a prominent place, until in recent years the specific origin of these diseases has been recognized as practically invariable.

There is no doubt that severe direct injuries to the nervous system produce definite disease as is revealed by traumatic neuritis and traumatic spinal and cerebral apoplexy, and also reveal frequent cases in which an injury has very definitely modified the location, the outbreak and the symptoms of certain diseases, as, for instance, when in this way latent epilepsy, or hysteria or diabetes becomes active.

Trauma may then (1) hasten the outbreak of the disease, as in focal lesions, in arteriosclerosis or general paresis; or it may accelerate the

symptoms of an already concealed condition, as in purulent meningitis of the base; (2) it may determine the location of disease, as when an injury to the head determines the outbreak of tuberculous meningitis in cases where the tuberculous process is located elsewhere; (3) as a third possibility, it may result in a modification of symptoms, as where an injury to the left hand in a case of incipient tabes induced a high degree of anæsthesia and ataxia of the upper extremity.

In order to decide upon the relative importance of trauma, certain conditions must be determined, as (1) the injury must constitute a definite accident and not merely sequence of a disease already existent (as, for instance, when an apopletic patient falls in vertigo); (2) the trauma must be of sufficient violence to induce a noticeable effect; (3) the interval between the trauma and the first demonstration of disease should not be too long, and should be consistent with the development of other symptoms (as in a case of poliomyelitis following vaccination, in which the paralysis occurred on the third day after the inoculation, although the development of the vaccine was not completed until the sixth day); (4) and there must also be a definite clinical relation between the trauma and the outbreak of the disease, that is to say, that certain axioms as to the relation of concussion and its symptoms should not be ignored.

The earlier writers were satisfied to attribute certain mental disturbances to injuries which had taken place as many as fifteen or twenty years before the appearance of symptoms. With a closer analysis, however, the proportion of traumatic cases in hospitals for mental diseases is a very small number, only one or two per cent. are now reported, and when these are investigated there are often evidences of preceding deterioration. Several cases are reported following simple concussion of the brain, in which the outspoken symptoms were disconnected thought, forgetfulness, langnor, headache, and, after any voluntary effort, vertigo with vomiting, marked apathy, and definite supersensitiveness; in other words, general mental weakness, revealed by inability to think and labyrinthine disturbances. This fairly characteristic and common syndrome the author describes as encephlopathia traumatica.

In another group of cases there appeared forgetfulness, stupor, indolence, irritability, impulsiveness and imperative thought, with intolerance, restlessness at night, and even pavor nocturnus, a group of symptoms to which Oppenheim has given the name traumatic neurasthenia and Wille has described as primary traumatic delirium.

In conclusion the distribution of these cases may be made into two groups:

(1) Complicated cases of concussio cerebri may show different kinds of mental symptoms to be attributed to this cause. The form of mental symptom depends upon the severity of the concussion, the age and the predisposition of the patient.

(2) The mildest form of this psychosis may be encephalopathic trauma, of which the symptoms are forgetfulness, irritability, dullness of sensibility of all impressions, intolerance of effort and nerve resistance, together with disturbances of sleep. These cases are curable. The more severe psychoses may take the form of traumatic delirium as described

by Wille, or as traumatic amentia as described by Calberlah. The symptoms of this severe form are disorientation, excitability, confusion, hallucinations, ideas of suspicion and childishness, together with the symptoms manifested under the lighter form. The outcome of this form of the disease is in either recovery or remissions.

PEDIATRICS

Edited by Henry L. K. Shaw, M. D.

The Perivascular Topography of Intestinal Tuberculosis in Early Childhood (Note sur la Topographic Perivasculaire de la Tuberculose Intestinale dans le Premier Age).

PEHU. *Archives de Médécine des Enfants, January,* 1911.

Intestinal tuberculosis in the infant is a favorable field for research as to its mode of infection. The author has been making careful anatomical studies in these cases for a number of years and finds that the lesions are grouped about the blood vessels and that intestinal tuberculosis is of hæmic origin.

Tuberculosis in the infant runs a very rapid course and the visceral lesions are almost always in their initial phase. The minute granulations are grouped about the blood vessels near the peritoneal surface. The predominance of the granulations under the serous coat of the peritoneum is an established fact and is a strong argument against the alimentary origin.

When one examines the tuberculous ulcers of the intestine from the peritoneal surface, arterial ramifications or a branch of a blood vessel are plainly visible.

The author's explanation is that the tubercle bacilli are carried by the blood and distributed under the peritoneal coat. Granulations are formed which become confluent and form into tubercles. These make a progressive penetration through the intestinal wall.

Several researches have shown that the gastric contents of young tuberculous children are able to destroy the tubercle bacillus. If the bacilli were introduced by the intestine the ulcerations and tubercles would predominate in the organs of absorption—namely the lymphoid follicles and the Peyer patches, which is not the case.

The extreme rarity of primary intestinal tuberculosis is an argument against alimentary infection.

The fact that the frequency of tuberculosis in infants has not been influenced by sterilization or pasteurization of milk points to the respiratory tract as being the origin of the disease.

The author concludes that the point of entry is most often through the respiratory apparatus and that the intestine is most often infected through the blood.

ALBANY
MEDICAL ANNALS

Original Communications

A CONTRIBUTION TO THE ANATOMY AND PATHOGENY OF AGENESIA OF THE CORPUS CALLOSUM.

BY LASALLE ARCHAMBAULT, M. D.,

Lecturer on Diseases of the Nervous System in the Albany Medical College, Albany, N. Y.

The brain, like the other internal organs, is apt to present now and then peculiar defects of configuration, developmental errors, the mechanism and significance of which still remain in great part a matter of pure conjecture.

Of all the anomalies of the brain, that which possesses perhaps the greatest interest, is the so-called agenesia of the corpus callosum. Whereas in such deformities as anencephaly, hemicephaly, cyclopy, etc., we have to do with a global absence either of the entire brain or of a considerable portion of it, including specialized nuclear formations and afferent and efferent fibre-systems, in agenesia of the corpus callosum, on the contrary, we are confronted with an anomaly bearing exclusively upon one individual and well-defined structure, upon a single fibre-system, the great hemispheral commissure. The question is all the more interesting because it involves two important anatomic problems; (1) Is the corpus callosum really absent in cases of so-called agenesia of the corpus callosum? (2) Does this anomaly throw any light upon the normal structure of the cerebral hemisphere? Before we attempt to answer these questions on the ground of personal research, we shall first summarize what is actually taught in text-books and what recent investigations have revealed regarding this defect.

According to Anton,[1] absence of the corpus callosum may be partial or complete; sometimes only the posterior or occipital segment is wanting. The anterior commissure also may be

[1] Anton, In Handbuch der pathologischen Anatomie des Nervensystems by Flatau, Jacobsohn and Minor, Berlin 1904, Band I, p. 425.

absent. The white matter of the cerebrum is usually reduced with relative augmentation of the gray matter. The ventricles are generally dilated and present the lesions of congenital ependymitis. The ventricular convolutions are hypertrophied while convolutions in other regions frequently show evidence of microgyria. The mesial hemispheral surface is traversed by numerous radiating sulci. There is commonly a simultaneous absence of the septum pellucidum and fornix, or at least, only a rudimentary development of these structures. A defective or asymmetrical development of the pyramidal tracts has frequently been observed.

As regards the cause of agenesia of the corpus callosum, the associated anatomic findings in many cases have left little doubt that the condition had resulted from foetal hydrocephalus which is fully capable either of interfering with the development of the corpus callosum or of determining its complete disappearance when already formed. An abnormal situation of the anterior cerebral artery (Sander) or of the falx cerebri (Richter) has also been regarded as a possible cause of this anomaly.

A number of cases of absence of the corpus callosum have been reported (Anton, Huppert, Jelgersma, Mingazzini, Onufrowicz, Zingerle and others), but the first scientific description of this anomaly, based on careful study of serial sections, we owe to Onufrowicz.[2]

This author groups the various cases gathered from literature into four classes.

I. Cases of complete agenesia without associated lesions,

II. Cases of partial agenesia without associated lesions,

III. Cases of agenesia associated with focal lesions, hydrocephalus, etc.,

IV. Unclear and inadequately described cases.

He refers to the case of Jolly (which he places in the second category), in which there was found on the dorsal or superior surface of the corpus callosum, a peculiar collection of heterogenous substance, a mass of fat, which extended forward over the genu and on to the lamina terminalis. Microscopically, this collection presented the typical structure of adipose tissue and minute fatty clusters were likewise observed about the choroid

[2] Das Balkenlose Microcephalengehirn Hofmann, Archiv. fur Psychiatrie, 18 Band, 1887.

plexes of the lateral ventricle. The corpus callosum was normally conformed in its frontal segment only; it forked posteriorly, its two pillars directed backward, penetrating gradually into the depth of the hemispheres. The psalterium was also wanting.

In Nobiling Mayer's case, the crista frontalis was the seat of an exostosis the size of a hazelnut, which had mechanically interfered with the development of the callosal commissure.

In Onufrowicz's own case, the gyrus fornicatus was absent and the anterior part of the calloso-marginal fissure was replaced by vertically-directed and radiating sulci. The parieto-occipital and calcarine fissures did not unite so that the cuneus appeared abnormally lengthened. The olfactory lobes and bulbs were wanting but the sulcus olfactorius was vaguely outlined. In place of the corpus callosum there was present a thin membrane, undoubtedly a remnant of the lamina terminalis. The lyra was wanting. The body of the fornix and the septum lucidum were cleft into symmetric halves. The commissura mollis was absent. The optic system and the anterior commissure were present.

Throughout the series of sections, Onufrowicz describes a voluminous tract of fibres having a sagittal or antero-posterior direction, the fibres being cut transversely on frontal sections. Corresponding to the middle segment of the cerebral hemisphere or to the body of the lateral ventricle, this bundle is situated in the territory normally occupied by the congregating fibres of the corpus callosum, i.e., above the caudate nucleus and at the lateral and superior angle of the body of the ventricle. The fornix is intimately connected with this bundle which previous observers erroneously regarded as a remnant of the corpus callosum. The fornix is covered over directly by cortical substance, but it will be remembered that the fornix is the true mesial limit of the hemispheral white matter. It had simply spread out more widely in this case owing to the absence of the callosal commissure. The ventricles are dilated throughout, least of all in the occipital horns. The tapetum of the occipital and sphenoidal horns is intact and therefore cannot be derived from the corpus callosum, as this structure is wanting together with its occipital prolongation, the forceps major. The tapetum is formed by a sagittal bundle, the occipito-frontal fasciculus,

which in the normal state is so intricately traversed by the callosal radiations that it is practically impossible to isolate it from the corona radiata. It becomes plainly visible when, as in this case, the corpus callosum is absent. An atrophy of the tapetum has never been observed in cases of agenesia of the corpus callosum; on the contrary, as in the instance reported by Paget, the tapetum may be appreciably hypertrophied. The two halves of the fornix and septum lucidum being separated and each enclosed within the corresponding cerebral hemisphere, many observers have maintained that the corpus callosum had been destroyed only in the mesial line and that its lateral portions were preserved. Onufrowicz insists upon the gross incorrectness of this interpretation, adding that agenesia of the corpus callosum is not a defect acquired in later life. When a central nerve tract is interrupted in the new-born animal, all its constituent fibres together with their trophic cells disappear. A persistence of the central segment or stump of divided nerve-fibres is highly improbable under the circumstances. The nervi Lancisi in this case were for the most part intact and, owing to the absence of the corpus callosum, more clearly defined.

The author sums up by saying that agenesia of the corpus callosum is the result of a primary failure or arrest of development and not of a secondary atrophy.

Shortly after Onufrowicz's monograph appeared, Muratoff[3] published the results of his experiments on the lower animals, which consisted in producing artificial lesions of the cortex and in severing the corpus callosum at different points.

In case 1, the section had involved the splenium and the contiguous portion of the body of the corpus callosum; the whole remaining portion of the trunk and the genu of the commissure presented macroscopically no appreciable changes. There had been however slight encroachment upon the mesial cortex. The longitudinal bundle situated beneath the corpus callosum, which Muratoff calls the fasciculus subcallosus and which lines the superior and outer walls of the posterior horn or, in other words, forms the tapetum, was found to be distinctly degenerated. Degenerated callosal fibres were also observed coursing along the inner or mesial wall of the posterior horn.

[3] Secundäre Degeneration nach Durchschneidung des Balkens. Neurologisches Centralblatt, Nov. 1893.

In case 2, the anterior half of the corpus callosum had been completely severed; the posterior portion of the trunk and the splenium were intact. The anterior pillars of the fornix had been incidentally destroyed. Microscopically, the anterior three-fourths of the corpus callosum were markedly degenerated, the splenium normal. A part of the left fasciculus subcallosus, that which courses through the frontal and temporal lobes was totally degenerated, while its posterior portion situated beneath the splenium and extending into the occipital lobe presented no material alteration.

The fasciculus subcallosus described by Muratoff in the brains of dogs consists of three parts: (a) a superior horizontal portion situated beneath the corpus callosum; (b) an outer descending portion which fills in the angle intervening between the corpus callosum and the corona radiata (and which, in my opinion, is none other than the reticular zone of the corona radiata described by Sachs, the internal sagittal layer of the fronto-parietal corona radiata of Anton and Zingerle), and (c) an inferior portion which covers over the basal ganglia. The author admits that his fasciculus is, in part, identical with Sachs's fasciculus nuclei caudati.

After cortical sections, the degenerative sclerosis is observed on the side of the lesion and is limited to the descending segment of the fasciculus subcallosus. The fasciculus subcallosus degenerates after lesions as well of the frontal as of the occipital region; in the former case, the sclerosis is not confined to the descending portion but involves diffusely the entire system. The degenerated fibres never could be followed throughout the entire length of the bundle, but after coursing over a considerable distance in the sagittal or antero-posterior direction, they were seen to curve upward and to disappear in the cortex after intermingling with the callosal radiations. The fasciculus subcallosus, therefore, does not represent a direct fronto-occipital association-path. It forms, together with the tapetum, an indivisible association system, the fibres of which serve to connect with one another different points of one and the same hemisphere. All of these fibres originate from and terminate in the cortex.

The author adds a few conclusions regarding the corpus callosum. The callosal fibres do not exclusively unite symmetrical areas of both hemispheres but asymmetrical regions as well. The

most absolutely symmetrical connections take place between the frontal lobes. After cortical sections, the corpus callosum presents only a partial degeneration; the intensity of degeneration being directly proportionate to the extent of lesion.

Inspired by the supposed discovery of Onufrowicz regarding the true character and derivation of the tapetum and by the apparently confirmative results of Muratoff's experimental researches, Déjerine[4] attempted in 1895 to define in the normal brain of man the exact course and topography of this new bundle—the occipito-frontal fasciculus. According to this author, the fasciculus described by Onufrowicz is to be identified in the normal cerebrum with the internal sagittal layer of the fronto-parietal lobe, and corresponds to what has been described by Meynert as the corona radiata of the caudate nucleus and called by Wernicke "the callosal fasciculus coursing to the internal capsule." It is a long association tract, having a sagittal direction, situated between the cingulum and the fasciculus arcuatus or superior longitudinal bundle; it is separated from the cingulum by the entire breadth of the corpus callosum and from the fasciculus arcuatus by the base of the corona radiata. The occipito-frontal fasciculus in its course beneath the ependymal lining of the ventricular wall, describes a curve the concavity of which is directed downward and forward. It is situated above the caudate nucleus, to the mesial side of the corona radiata and beneath the hook formed, at the external angle of the lateral ventricle, by the congregating radiations of the corpus callosum. On frontal section this bundle is pyriform; its apex, directed upward, insinuating itself between the callosal fibres and the lining ependyma. It is well-defined along the head and trunk of the caudate nucleus, but is extremely dissociated posteriorly by the fibres of the corona radiata and of the corpus callosum; it then curves downward and spreads out fan-shaped over the inferior and external wall of the sphenoidal horn, forming the tapetum. It takes its origin from the cortex of the whole of the frontal lobe and receives in its occipital course a large number of fibres from the superior border of the hemisphere and from the external convexity, which reach it by passing between the callosal radiations and the fibres of the corona radiata. From the base of the occipito-frontal fasciculus,

[4] Anatomie des Centres Nerveux, Paris 1895, pp. 758-765.

a certain number of fibres are given off which traverse the corona radiata and enter into the formation of the external capsule. In the temporo-occipital lobe this tract forms the tapetum, the fibres of which radiate into the convolutions of the lateral convexity and inferior border. In the occipital horn, these fibres intermingle with those of the forceps major of the corpus callosum.

Lesions of the occipital lobe react not only upon the forceps major but also upon the tapetum and the occipito-frontal fasciculus. The latter bundle degenerates partially after lesions either of the temporal lobe or of the hemispheral convexity and the degenerated fibres can be followed into the subependymal layer.

The occipito-frontal fasciculus joins the temporo-occipital lobe with the frontal lobe, the hemispheral convexity and the island of Reil; the latter connection being established by means of fibres which pass through the external capsule.

One of the first to furnish a detailed description of agenesia of the corpus callosum after Onufrowicz, was Zingerle.[5] In his case, there existed on the visceral surface of the dura mater corresponding to the left hemisphere, a whitish pseudo-membrane about 1 mm. in thickness, which was peeled off from the dural surface by a collection of serum and which compressed the underlying parietal region. The cerebrum was somewhat enlarged and covered by delicate, anaemic leptomeninges. The convolutions were well developed but slightly flattened. The corpus callosum was represented by a small thin commissural structure limited to the anterior portion of the cerebrum and which only extended forward to the base of the frontal lobe. Corresponding to the rest of the corpus callosum, the interhemispheral fissure was empty. Only the right half of the fornix was normally developed. The ventricles were considerably dilated, filled with clear serous fluid and lined by a thickened velvety granular ependyma. The left optic thalamus was unusually prominent; otherwise the basal ganglia were normal.

The left hemisphere appeared larger generally than the right but the disproportion was particularly noticeable between the frontal lobes. On the mesial surface of the left hemisphere the

[5] Ueber die Bedeutung des Balkenmangels im menschlichen Gehirn, Archiv. f. Psychiatrie, 1898, Bd. 30.

sphenoidal horn and the greater part of the occipital horn were exposed, forming a longitudinally-directed shallow excavation somewhat rhomboidal in shape, at the bottom of which lay the uncovered basal ganglia. The mesial wall of the decidedly dilated occipital horn was wanting almost entirely; its posterior boundary was formed by a broad pad-like thickening of cortical substance which started at the base from the gyrus hippocampi, passed at first backward and upward, then curved forward, thereby forming the superior boundary of the sphenoidal horn. Protruding into the latter horn a swelling could be seen which evidently represented the pes hippocampi. The mesial wall of the frontal horn was absolutely intact. The ventricular ependyma was markedly thickened and granular and was permeated by a network of glistening white scar-tissue strands. These changes were much less pronounced in the anterior or frontal portion of the lateral ventricle. Of the corpus callosum, only the most anterior segment, that which corresponds approximately to the genu, was present. It formed a mass of transversely directed fibres 1 cm. in width and 2 cm. in length. Posteriorly, this callosal structure became adherent to the marginal pad above described and formed a thin layer of fibres which closely invested that part of it formed by the gyrus fornicatus. Attached to the anterior margin of the callosal genu, a few membranous shreds were to be seen which undoubtedly represented the remnants of a once existing septum lucidum. The commissura mollis and the posterior commissure were present. The body of the fornix was totally wanting. In the occipital lobe none of the typical fissures, not even the calcarine, could be demonstrated with certainty; all of the sulci were short, shallow and irregular in their course. In the temporal lobe, it was noted that the two blades of the gyrus hippocampi were not blended together as is invariably the case in the normal brain. In a general way, the majority of the sulci both of the mesial surface and of the convexity presented a radiate arrangement; they were more numerous in the latter situation where some of them attained considerable depth. The orbital surface of the frontal lobe was teeming with atypical sulci, but the sulcus olfactorius was normally developed. The fissure of Sylvius terminated by splitting up into a number of diverging sulci, one of which, larger than

the rest and situated on the temporal side, coursed backward as far as the occipital pole.

As regards the right hemisphere, only a few points wherein it differed materially from the left are considered. The ventricular dilatation was much less marked and the mesial wall of the occipital horn was absolutely intact. The ependymal changes were likewise far less pronounced. The callosal defect of course was the same. The persisting mass of fibres which coursed backward from the genu was tightly wedged in between the fornix and the calloso-marginal convolution. As in the other hemisphere, this callosal bundle dwindled down to a thin layer posteriorly and disappeared, at the level of the optic pulvinar, beneath the cortical pad of the gyrus fornicatus. The fornix on this side was normally developed throughout, its body was closely adherent to the marginal hemispheral substance and anteriorly to the callosal rudiment. The septum lucidum and the foramen of Monro were not demonstrable. The condition of the fissures and sulci was the same as in the left hemisphere as regards abnormality of number and disposition; the primary fissures however could be readily distinguished and followed. The pineal gland and the ganglion habenulae were not to be found. The third ventricle was appreciably dilated, the fourth to a lesser degree. The striae acusticae were not discernible.

Frontal sections through both hemispheres showed a decided disproportion, in comparison with the normal cerebrum, between the gray and the white matter; the former being relatively increased and the latter reduced fully one-half. The central subventricular griseum, which in the lower vertebrates is much more amply developed than in man, also exhibited an abnormal overgrowth. The tuber cinereum likewise appeared more voluminous than in the normal state.

Microscopically, it was seen that the callosal fibres derived from the persisting genu surrounded almost completely the dilated frontal horn. Corresponding to the posterior extremity of the callosal rudiment and to the anterior portion of the body of the lateral ventricle, there lay, immediately above and intimately connected with the thin layer of intra-hemispheral callosal radiations, a bundle of fibres cut transversely and obliquely which emerged from the callosal structure and coursed towards the more posterior regions, spreading out over the roof and upper

part of the external wall of the lateral ventricle. These fibres belong to the fronto-occipital association tract and a fair number of them were seen to curve laterally and pass into the external capsule. In the sphenoidal horn the fibres of this tract blended with those lining the lateral wall of the ventricle.

In the temporal lobe, the tapetum received fibres from fasciculi whose relations with it could be easily established owing to their poor staining reaction. In more anterior regions, these fasciculi formed a quadrangular field situated to the inner side of the fasciculus uncinatus and beneath the external capsule. This field became gradually displaced mesially as more and more posterior levels were considered, approached the lamina medullaris externa of the optic thalamus and dwindled down rapidly as the sphenoidal tapetum grew richer and richer in fibres. These fasciculi had simply traversed the whole breadth of the projection layer and passed directly into the tapetum. To this bundle of fibres, Zingerle gives the name of fronto-temporal association tract.

In the occipital lobe, the tapetum was formed by the joint fibres of the cingulum and fronto-occipital bundle.

In interpreting the various features of his case, Zingerle insists, in the first place, upon the inflammatory origin of the internal hydrocephalus, evidenced by the granular ependymitis and the presence on the surface of the brain of haemorrhagic extravasations. The disappearance of the mesial wall of the occipital horn, he attributes to its inadequacy to withstand the increased ventricular pressure, owing to the structural deficit resulting from the absence of the corpus callosum. The extensive implication of the corpus callosum he finds easy enough to explain. In the course of an acute internal hydrocephalus, there occurs, besides the infiltration of the ependyma, a softening and pressure atrophy of the surrounding fibre-mass, particularly of the corpus callosum and fornix. In virtue of its intra-hemispheral expansion which forms the innermost ventricular layer the corpus callosum is naturally the first structure to suffer from increased intra-ventricular pressure. The previously existing commissure of the cerebral hemispheres has disappeared as the result either of softening or of atrophy, the same process having led to the destruction of the fornix on one side.

The decided disproportion between the gray and the white matter with distinct relative excess of the former is to be explained by the fact that in the various pathologic affections, the white matter invariably suffers more than the gray; the latter's nutritional state being partly maintained by the additional blood supply it receives from the pial vessels. When there is an associated hindrance to myelinization, the development of the gray matter encounters still less resistance and even goes on to microgyria.

The radiate arrangement of the marginal convolutions simply represents, as Anton had previously shown, a persistence of the primary or original disposition of these convolutions which assume their ultimate sagittal direction only with the full development of the callosal commissure.

In either hemisphere, there existed a sagittal bundle which seemed to emerge from the callosal rudiment and to represent its posterior continuation. This bundle coursed backward in the domain normally occupied by the callosal fibres between the gyrus fornicatus and the ventricular ependyma and blended directly with the deep hemispheral substance. On the right side, the fornix lay immediately beneath it. This bundle almost fully corresponded as regards both its configuration and its course to the fronto-occipital association tract described by Onufrowicz, Kaufmann and Hochhaus. Zingerle is of the opinion that owing to the absence of the corpus callosum, long sagittal fibre-systems have become more sharply defined than in the normal cerebrum. That despite the defect in the left hemisphere, so considerable a portion of this sagittal bundle should have persisted, distinctly shows that it does not simply serve to connect the frontal with the occipital lobe, but that it likewise contains fibres coursing to and from intermediate cortical regions. In the parietal lobe, the fibres of this tract were intimately blended with those of the cingulum. From this point, they passed outward above the roof of the ventricle to its lateral wall, where they became continuous with the subependymal layer of fibres which extends forward into the lateral wall of the frontal horn. Posteriorly, the sagittal fibres could be followed into both the mesial and lateral walls of the occipital horn, where they occupied beneath the ependyma the domain normally held by the fibres derived from the callosal forceps. From that portion of the sagittal

bundle which courses through the parietal lobe, fibres could be followed uninterruptedly into the external capsule.

In Zingerle's case, as in previously observed instances of absence of the corpus callosum, there existed in the domain of the tapetum and lateral forceps layer, both in the temporal and in the occipital lobe, perfectly intact fibre-bundles which were sharply differentiated from the neighboring white matter. The tapetum of the occipital lobe was a direct continuation of the fronto-occipital sagittal bundle; that of the temporal lobe was derived from the fronto-temporal association tract. After considering all the facts brought out by competent observers regarding the constitution of the tapetum, Zingerle admits that in the normal cerebrum this structure is not formed by any single fibre-system but that its character is complex. He believes that there enter into its formation, besides callosal radiations, long association fibres which join in the same hemisphere, the temporal and occipital lobes with the frontal lobe. Against the view expressed by Vogt that the fronto-occipital association tract follows the caudate nucleus in its downward curve into the temporal lobe, Zingerle holds that this tract for the most part continues backward into the occipital lobe, and that the connections between the frontal and temporal lobes are established through a direct fronto-temporal association bundle which probably follows the route of the external capsule.

In the left hemisphere, fibres derived from the cingulum could be plainly followed to the mesial wall of the occipital horn; a fact likewise observed by Vogt.

Owing to the absence of the mass of fibres which radiates from one hemisphere into the other, cases of agenesia are particularly favorable for the study of the relations which the association and projection fibre-systems bear to each other. It was clearly to be seen in Zingerle's case, that the latter system is bounded both mesially and laterally by association fasciculi. The mesial fasciculi are constituted by the cingulum and by the fronto-occipital and fronto-temporal association bundles and represent the longest connecting path between the individual lobes of the cerebral hemisphere. Lateral to the projection radiation, exists the external and shorter association layer formed by the union of the fasciculus arcuatus, the fasciculus uncinatus and the fasciculus longitudinalis inferior.

Closely following Zingerle's monograph, appeared another important publication on this subject by Probst.[6] In his case, the callosal commissure was totally wanting as well as the commissura mollis and the septum lucidum. The anterior and posterior commissures were present. The fornix lay directly upon the surface of the mesial convolutions and in the posterior regions sank deeply into the hemispheral substance. Anteriorly, it was reinforced by fibres coming from the tapetum of the frontal horn as well as from the substance proper of the frontal lobe; the total mass of fibres forming a well-defined bundle coursing along the mesial border of the lateral ventricle. On reaching the sphenoidal horn, part of this bundle became detached and formed the fimbria or posterior pillar of the fornix, while the greater and remaining portion continued posteriorly and constituted the tapetum of the occipital horn. The left fornix appeared somewhat more voluminous than the right. The occipital horns of the lateral ventricles were dilated and in the deep substance of the right occipital lobe, islands of gray matter were present.

In the right hemisphere, the calloso-marginal fissure was absent, the ventricular cleft extended horizontally from the frontal to the occipital lobe and the superior frontal and ascending parietal convolutions presented a certain degree of microgyria.

In the left hemisphere, the smaller of the two, there was pronounced microgyria of the frontal lobe. The Rolandic and Sylvian fissures enclosed a quadrangular field which extended forward into the frontal lobe and in which only microscopic convolutions existed. The cuneus was bisected by a deep fissure and presented together with the paracentral lobule distinct evidence of microgyria.

The right olfactory bulb was normal; the left one shrivelled up and its sulcus olfactorius empty.

In a later publication[7] on microcephaly and macrogyria, Probst refers to a second case of agenesia of the corpus callosum. In this instance, the agenesia was incomplete; the anterior segment of the callosal commissure was partially developed, but the splenium was wanting. Anteriorly, there existed over the dorsal or superior surface of the corpus callosum, a small bundle which

[6] Probst: Archiv. für Psychiatrie, 1901, B 34.
[7] Probst, Zur Lehre von der Mikrocephalie und Makrogyrie, Archiv. f. Psychiatrie, Bd. 38, 1904.

the author calls the supracallosal bundle, the fibres of which pursued a sagittal course. More posteriorly, this bundle dipped down into the substance proper of the callosal commissure, filling in the mesial cleft which gradually developed as the callosal fibres no longer reached the middle line. Still more posteriorly, this bundle bifurcated, forming two sagittal pillars which penetrated into the corresponding hemispheres where they could be followed into the tapetum. To either division of the supracollosal bundle, Probst gives the name of longitudinal callosal fasciculus (Balkenlängsbündel). On the ventral or inferior surface of the corpus callosum, a similar sagittal bundle existed which represented the frontal continuation of the fornix. The commissure between the two fornices was likewise divided by the mesial sagittal cleft. The corpus callosum formed both the lateral and the mesial tapetum; that portion of it which stretches over the roof of the body of the lateral ventricle was extremely thin. A diminutive convolution was observed above the corpus callosum, lying free between it and the gyrus fornicatus (gyrus supracallosus). The so-called fasciculus subcallosus of Muratoff, Probst has never observed as a well-defined structure.

In 1901, in an article on the fronto-occipital association tract, Schröder[8] brings together the various data acquired in recent years regarding the constitution and derivation of the tapetum and attempts to check the further growth of a rapidly increasing and useless anatomic perplexity.

He describes the fasciculus nuclei caudati of Sachs and the reticular zone of the corona radiata, both of which structures are included in the highly complicated fasciculus subcallosus of Muratoff and in Déjerine's equally puzzling occipito-frontal bundle. Schröder maintains that the reticular field of the corona radiata consists of fibres derived from the internal capsule, which course at first horizontally forward along the caudate nucleus for a variable distance, then curve upward and radiate into the convolutions of the mesial hemispheral surface. He recalls that Flechsig's view of Muratoff's fasciculus is practically identical with his own. The fibres of neither the reticular zone nor the fasciculus nuclei caudati can be followed into the tapetum. On horizontal sections, the caudate nucleus is seen to be sep-

[8] Das fronto-occipitale Associationsbündel; Monat. f. Psychiatrie u. Neurologie, Band 9, 1901.

arated from the main field of the corona radiata by a sagittally directed bundle containing two sorts of fibres; the greater number belong to the reticular zone of the corona radiata; the others situated more anteriorly simply represent the backward coursing layer of callosal radiations. Schröder severely criticizes Déjerine, in the first place, for speaking of a subependymal griseum. He recalls the fact that Sachs has already shown that there exist no ganglionic nerve-cells in the subependymal layer. In the next place, he refers to Déjerine's drawings of the tapetum in which the characteristic layer of reflected callosal fibres has been singularly omitted and he considers that such drawings can hardly be faithful reproductions of the actual sections.

Of the three parts of Déjerine's occipito-frontal bundle, one corresponds absolutely to Sach's reticular zone of the corona radiata; another, that which traverses the latter structure to pass into the external capsule, Sachs regards as belonging to the fasciculus nuclei caudati described by him, but Schröder considers that it is truly a dependency of the corpus callosum. What the fasciculus nuclei caudati represents in reality is a difficult problem to solve. Muratoff and Vogt regard it as a purely cortical association system, comprising fibres derived from the cortex and which return to it after pursuing a longer or shorter course anteroposteriorly. Schröder points out two objections however to this hypothesis—(a) the intimate relationship of this bundle to the caudate nucleus which it follows from the frontal to the sphenoidal horn undergoing proportionate variations in volume; (b) an unnatural situation in the depth of the hemisphere and beneath the ventricular wall for a cortical association system.

Onufrowicz spoke by exclusion. He considered that as there existed no interhemispheral commissure, the corpus callosum was necessarily absent. The mesially situated intrahemispheral sagittal bundle which he naturally could not attribute to the corona radiata, he was forcibly led to regard as an association tract. Sachs objected to this conclusion. He maintained that in such cases the corpus callosum does exist but does not unite the two hemispheres. The callosal fibres have developed and assembled in the vicinity of the lateral ventricle; for some unknown reason they have not crossed the middle line but formed in either hemisphere a sagittal bundle joining its two poles.

Schröder accepts the hypothesis advanced by Sachs that in these cases we have to do with a heterotopy of the corpus callosum. There exists in the normal brain no structure analogous to the sagittal bundle observed in cases of agenesia of the corpus callosum.

Another important monograph on agenesia of the corpus callosum is that by Arndt and Sklarek[9] which appeared in 1903. The case reported by these observers was an instance of incomplete agenesia. The frontal segment of the callosal commissure was present although represented by a very thin layer of fibres. The mesial portion of the anterior commissure was wanting, but otherwise this structure was plainly differentiated in its intrahemispheric course. As regard the persisting mesial segment or truly commissural portion of the corpus callosum, it was seen to consist of two sagittal or longitudinal bundles (Balkenlängsbündel of Probst) united at one point by the pia mater. Posteriorly these two fasciculi diverged, but anteriorly, actual decussation of their fibres took place; the fibres traversing the entire thickness of one sagittal bundle from its dorso-lateral to its ventro-mesial periphery and becoming continuous across the middle line with their fellows of the opposite side. There could be no doubt therefore that this structure was truly part of the callosal commissure. From this frontal segment, a number of fibres could be followed along the mesial surface of the caudate nucleus and beneath the lenticular nucleus into the external capsule. In the descending horn of the lateral ventricle, the longitudinal callosal fasciculus separated into two leaflets, one spreading out over the inner wall and forming a thin tapetum for the mesial side of the sphenoidal and occipital horns, the other, more voluminous, unfolding itself over the lateral and ventral aspect of the ventricle and forming the lateral tapetum. The fibres derived from both leaflets completely surrounded the occipital horn. The fibres of the fornix were seen to penetrate into the persisting frontal segment of the callosal commissure, and between the fornix and the sagittal callosal bundles annectant fibres were everywhere to be seen. Between the latter bundles and the convolutions of the mesial hemispheral surface, a well-defined nerve-tract existed which could be none other

[9] Arndt u Sklarek "Uber Balkenmangel im menschlichen Gehirn," Archiv. für Psychiatrie, 1903, Bd. 3.

than the cingulum. Its fibres were cut transversely on frontal sections and could be followed a considerable distance into the frontal and occipital lobes. The commissure between the fornices, the psalterium, as well as the septum lucidum were wanting. The gyrus fornicatus was present but differed widely in its morphology from the normal type.

Arndt and Sklarek then review the various cases previously published. They recall that the hypothesis advanced by Sachs and Schröder has been accepted by Marchand, Römer, Probst, Obersteiner and Redlich, and they discuss the many analogies which the longitudinal callosal fasciculus has with the normal corpus callosum. Like the latter, it radiates into the frontal and occipital horns of the lateral ventricle and receives fibres from the superior frontal and central convolutions. The fact that the longitudinal callosal fasciculus does not exist in the normal brain, militates strongly in favor of Sach's hypothesis that it represents a heterotopy of the corpus callosum. The authors criticize Zingerle's interpretation of his case, in which the posterior portion of the corpus callosum had developed but subsequently disappeared as the result of an inflammatory internal hydrocephalus. Zingerle believed that the fibres which crossed the middle line through the uninvolved frontal segment of the callosal commissure, changed their course and passed into the posterior regions of the hemisphere. As to the tapetum, which in his case was practically normal save for a slight atrophy, he believed it to be formed by the fibres of the fasciculus nuclei caudati and the subependymal layer. Zingerle considered that in this particular instance, these fibres had taken on a more ample development and that they constituted by themselves the tapetum which in the normal state is also formed by other fibres. He thus regarded the tapetum as identical with the bundle described by Onufrowicz and rejected Sach's hypothesis, which, in his opinion, failed to explain the persistence of the tapetum in this case in which the corpus callosum had already existed and later been destroyed. Zingerle admitted that in his case the tapetum was thinner than in cases of complete agenesia, but this he attributed to simple atrophy, the result of internal hydrocephalus. Personally, we would call attention to the fact that this ventricular dilatation is relatively slight and that the atrophy of the tapetum contrarily to Zingerle's belief pleads

strongly in favor of Sach's idea. A lesion of the splenium would not necessarily wipe out the total mass of its fibres but only the distal segments of the divided nerves, the central ends remaining practically intact in the hemisphere corresponding to their origin. Such could be a perfectly logical explanation of the atrophy of the tapetum observed in Zingerle's case. It is difficult to conceive that so insignificant a structure as the fasciculus nuclei caudati should hypertrophy to the extent of forming such a voluminous fibre-stratum as the tapetum. Moreover, in cases of partial agenesia of the corpus callosum, the fasciculus nuclei caudati and the reticular zone of the fronto-parietal corona radiata are readily distinguishable as separate nerve-tracts, and one cannot, therefore, consider that the longitudinal callosal fasciculus described by Probst or the so-called fronto-occipital bundle of Onufrowicz represents a hypertrophic alteration of these structures.

In discussing the pathogeny of agenesia of the corpus callosum, Arndt and Sklarek attribute this anomaly to an arrest of development. They compare the absence of the callosal commissure to the mesial clefts observed in other parts of the body (thorax, abdomen, bladder) as the result of imperfect development and in connection frequently with rudimentary internal organs. They refer to the case reported by Anton in which the callosal defect was associated with cleft palate and hare-lip. As regards the gyrus fornicatus, this convolution is frequently wanting and in this situation the cortex is traversed by numerous radiating fissures. In many cases however (in the case published by Probst and in their own), the cingulum is present, so that the existence of an analogous convolution may be taken for granted. In other cases, there is no indication whatever of a gyrus fornicatus and its absence is then to be regarded as an associated anomaly. The radiating fissures simply represent an early phase of development. We know that normally these primitive fissures disappear; their persistence, therefore, is a strong argument in favor of the hypothesis just advanced that in agenesia of the corpus callosum, we have to do with an arrest of development. According to certain authors, Jelgersma in particular, microgyria would be the result of absence of the corpus callosum, but Arndt and Sklarek maintain that such is not the case; the cortex in microgyria is normal microscopically

and the condition simply results from hyperlobulation of the surface. Moreover we have already seen that the corpus callosum is not really absent. Again, it may be remarked that in Probst's case, the microgyria was unilateral; if Jelgersma's theory were correct, the condition would necessarily be bilateral.

To the best of our knowledge, the most recent scientific publication on agenesia of the corpus callosum is that by Groz.[10] This author reports two cases of agenesia observed in the newborn. The first case was an instance of almost complete absence of the corpus callosum, the genu being the only part which was distinctly formed. Below and anteriorly, this rudiment was continuous with the lamina terminalis. The septum lucidum, the commissura mollis and the fornix were totally wanting. The gyrus fornicatus and the calloso-marginal fissure were likewise absent and the corresponding region of the mesial hemispheral surface was traversed on either side by five diverging sulci. There existed in both hemispheres a pronounced microgyria of the frontal and occipital lobes and all the remaining convolutions were abnormally small. The primary fissures were shallow and pursued an atypical course. The internal parieto-occipital and calcarine fissures did not unite as in the normal state. The operculum and the island of Reil were wanting entirely. The pia mater was markedly thickened, opaque and abnormally rich in blood vessels. A distinctly elevated though cicatricial meningeal patch covered on either side the frontal pole of the hemisphere.

On frontal section through the hemispheres at the level of the persisting genu, it was seen that this structure gave off on both sides two delicate leaflets which penetrated into the hemispheral substance by passing, one above, the other below, the frontal horn. There was not the faintest trace of an occipito-frontal fasciculus. (It is well to note however that this assertion is based entirely upon the study of the gross specimen.) The lateral ventricles were markedly dilated and the ependymal lining, particularly of the frontal and occipital horns, was distinctly thickened and granular. The more minute study of this case was practically limited to histologic examination of the meningeal lesions and of the cortex of the motor areas. The

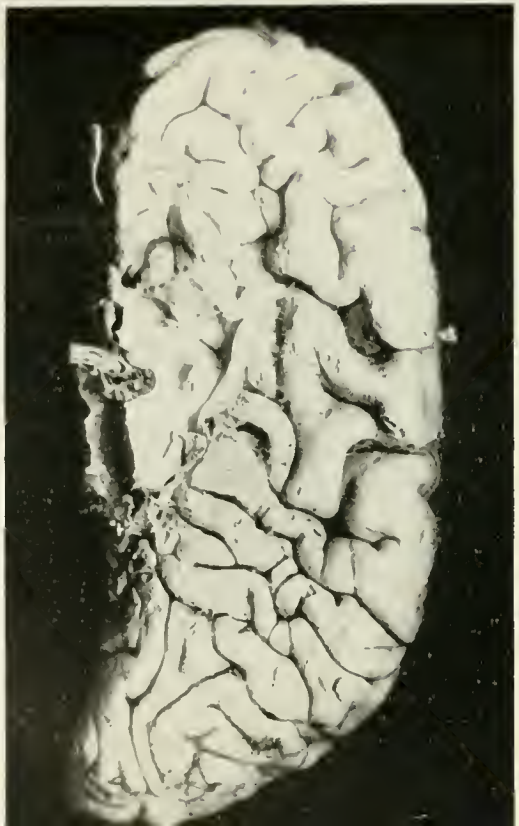
[10] Groz. Mikrogyrie und Balkenmangel im Menschlichen Gehirn. Archiv für Psychiatrie, Band 45, 1909.

cerebral cortex was filled with small round cysts separated from one another by strands of connective tissue. These cysts occupied more particularly the layer of pyramidal cells. Their contents were more often amorphous but, now and then, cellular and fibrillar débris were encountered. A large number of minute hemorrhagic foci both in the cortex and in the subjacent white matter, as well as a more or less generalized neurogliar proliferation, were likewise observed. These various lesions lead the author to formulate the diagnosis of diffuse hemorrhagic encephalitis with implication of the pia mater and of the ventricular ependyma. It is with right that he regards these severe and extensive lesions as the underlying cause of both the callosal defect and the generalized microgyria. Interpreting the case from an embryologic point of view, Groz considers that the development of the corpus callosum has been intercepted at the beginning of the fourth month of intra-uterine life and that the essential cause of this arrest was none other than internal hydrocephalus.

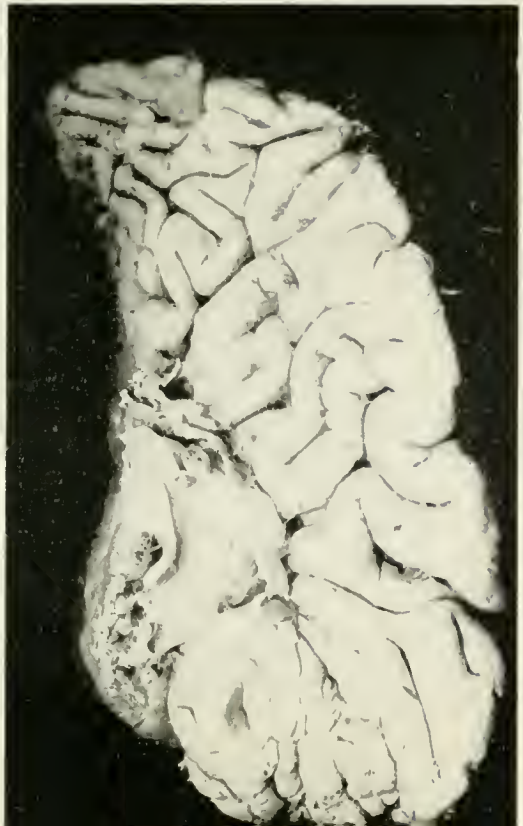
The second case reported by Groz is not, properly speaking, an instance of agenesia. The corpus callosum was normally conformed in all its segments but presented, however, a generalized and truly remarkable exiguity. Its thickness varied between two and three millimetres. Evidently, the condition was one either of rudimentary development or of secondary atrophy. The author admits, moreover, that there existed in this case a tremendous ventricular dilatation. The septum lucidum being absent, a free space was left between the corpus callosum and the fornix which allowed the lateral ventricles to communicate with each other. Both hemispheres presented a generalized microgyria which was particularly accentuated in the frontal and occipital lobes. The cerebellum was the seat of marked hypoplasia. Its white matter was decidedly reduced in amount and its convolutions were abnormally numerous and diminutive. There existed neither in the meninges nor in the ventricular lining the slightest trace of inflammation. Groz therefore concludes that the rudimentary state of the corpus callosum is secondary to an internal hydrocephalus of unknown origin. In his opinion, however, this hydrocephalus may be regarded, in this particular instance, as the manifestation of a generalized tendency to malformation. There existed indeed, in this subject,

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B



A

a whole series of anomalies: a median abdominal cleft, an umbilical and a diaphragmatic hernia, a lumbo-sacral spina bifida, an extreme hydromyelia and a rudimentary development of the majority of the internal organs.

Finally, within the last few months, another case of partial agenesia of the corpus callosum has been very briefly reported by Kozowsky.[11] The callosal defect was absolutely analogous to that observed in the first case reported by Groz. The fornix and the septum lucidum were totally wanting. The dura mater was markedly thickened and firmly adherent, in several places, to the pia mater. On incising it, large quantities of perfectly clear serous fluid escaped, particularly over the convexity and in the interhemispheral fissure. Encysted collections of a similar fluid markedly compressed, at several points, the underlying cortex. The lateral ventricles and the Sylvian aqueduct were appreciably dilated and the lining ependyma was distinctly thickened and velvety. The lesions of chronic meningitis and cerebral sclerosis were well marked and they are to be regarded, according to Kozowsky, as the underlying cause of the callosal malformation.

The case which forms the basis of this contribution, we owe to the kindness of our teacher, Pierre Marie, who has entrusted us with its study and publication. It is an instance of complete agenesia of the corpus callosum taken in the sense usually understood of complete absence of the callosal commissure properly speaking.

Macroscopic Description

There exists, in the first place, an appreciable difference in the size of the two hemispheres; the right being decidedly longer and broader than the left.

Right hemisphere (Pl. I-B). Inspection of the mesial surface reveals at once the total absence of the callosal commissure. Its place is occupied by a thin membrane which starts at the base in the region of the corpora quadrigemina, follows the same curvilinear course which the corpus callosum does in the normal cerebrum, passes in front of the anterior commissure and becomes continuous with the lamina terminalis. The con-

[11] Kozowsky: Zur Frage über Balkenmangel im Gehirne des Menschen-Anatomischer Anzeiger, Band XXXVI, No. 20-22; June 9, 1910.

volutions of the mesial surface are, with the exception of certain peculiarities, normally conformed and developed. There is however a tendency to microgyria in the region of the frontal and parietal lobes. The cuneus forms, as in the normal state, a cortical wedge bounded by the parieto-occipital and calcarine fissures, but it is subdivided into two unequal segments by a vertically directed sulcus which descends from the hemispheral border and then curves horizontally backward to the occipital pole. The gyrus fornicatus, in our case as in so many others, is not recognizable from the standpoint of classic descriptions; it is represented by a most irregular convolution traversed by seven or eight vertically directed sulci which radiate towards the superior hemispheral border. The gyrus hippocampi is normally conformed and joins posteriorly the lingual lobule; it is separated from the remaining convolutions of the mesial surface by an abnormal prolongation of the conjoined parieto-occipital and calcarine fissures. The anterior portion of the misshapen gyrus fornicatus is appreciably depressed below the surface-level. The anterior commissure, the commissura mollis, the posterior commissure and the pineal body are all present and evidently normal in every respect. The same may be said of the structures which form the floor of the third ventricle, i.e., the corpora mammillaria, the tuber cinereum, the infundibulum and the optic chiasm. The septum lucidum is totally wanting as is also, macroscopically at least, the anterior pillar of the fornix. There is no trace of course of the psalterium or inter-fimbriate commissure. There is a slight dilatation of the third ventricle. In the depth of this cavity and adherent to the terminal membrane, the chloroid plexus is plainly visible near the foramen of Monro.

The convexity of the right hemisphere presents no abnormality save for slight departures from the normal topographic distribution of the fissures of the parietal and occipital lobes. The interparietal fissure continues vertically upward to the superior hemispheral border, thus bounding posteriorly throughout, the ascending parietal convolution; its posterior horizontal ramus is wanting entirely. The supramarginal gyrus is joined to the superior parietal lobule by a broad annectant gyrus. The occipital lobe shows a generalized tendency to microgyria and the second and third occipital convolutions are each subdivided

by short vertical sulci into three segments. The angular gyrus is traversed from before backward by a well-defined horizontal fissure.

The inferior surface of this hemisphere is practically normal except for the fact that the lingual lobule possesses an inordinate number of secondary sulci.

Left hemisphere (Pl. I-A). The most striking feature of this hemisphere is the diminutiveness of the frontal lobe; it is about one-fourth its normal size. This lobe is the seat of such marked microgyria both on its external and its mesial surfaces, that the topography of its convolutions is unascertainable. The base of the superior frontal convolution however is relatively normal. The inferior or orbital surface of the frontal lobe is practically unaltered, although the gyrus rectus cannot be mapped out owing to the absence of the sulcus olfactorius and olfactory bulb. On the convexity, and corresponding to the junction of the bases of the second and third frontal convolutions with the ascending frontal, there exists a depressed area, irregularly circular in outline, measuring approximately 2 x 2 cm. and having a distinctly cicatricial aspect. Over it the pia is markedly thickened, tense and adherent. On the mesial surface, the diminutive gyri present a much more definite arrangement, forming a series of regularly superimposed tubular convolutions, horizontally directed and separated from one another by very superficial sulci.

Aside from the pronounced abnormality of the frontal lobe just noted, the convexity of the left hemisphere presents still a number of interesting features. Although the ascending frontal and ascending parietal convolutions are well-developed, the intervening fissure of Rolando leaves between them a much wider cleft than in the normal cerebrum, thus producing the appearance of senile cortical atrophy. The ascending parietal convolution is incompletely subdivided by several obliquely directed superficial sulci. The supramarginal gyrus does not completely surround as in the normal state the termination of the Sylvian fissure. As in the right hemisphere, the angular gyrus is bisected by a deep horizontally coursing fissure. The external parieto-occipital fissure is abnormally lengthened, forming a deep cleft which descends obliquely forward and joins the second temporal sulcus. The occipital lobe presents similarly to that of the

opposite side a tendency to microgyria. The second occipital convolution is bisected by a sulcus derived from the parieto-occipital fissure and which joins the lateral or inferior occipital sulcus. The base of the first temporal convolution does not blend as in the normal state with the inferior portion of the supramarginal gyrus, but curves downward and becomes directly continuous with the base of the second temporal. The second and third temporal convolutions are united by several small annectant gyri.

On the inferior surface of the left hemisphere, there is little variation from the normal except that the gyrus hippocampi passes backward uninterruptedly into the fusiform lobule and that the occipital segment of this lobule is very abundantly and irregularly fissured.

The mesial surface presents in the parietal region the same abnormal configuration which was observed in the right hemisphere. The domain of the gyrus fornicatus is traversed by several deep fissures which arise from the superior hemispheral border and converge towards the limiting membrane which marks the site of the wanting callosal commissure. The precuneus is readily distinguishable. The parieto-occipital and calcarine fissures do not outline a wedge shaped convolution—the cuneus of the normal cerebrum—as they do not unite. Both terminate abruptly at a distance of about 1.5 cm. from the hemispheral border, being intercepted by annectant gyri which join the cuneus to the precuneus above and to the lingual lobule below. There does exist however on the median surface of the occipital lobe, a triangular lobule bounded above by a fissure originating in the precuneus and below by the collateral fissure; both fissures coming together at a point situated about 1.5 cm. behind the quadrigeminal bodies.

The preceding macroscopic description of the brain having been completed, the right hemisphere was cut horizontally into two parts, the left hemisphere frontally into three. The lateral ventricles being thus exposed, it was seen that the lining ependyma presented severe and widespread changes. In the right hemisphere, these ependymal lesions consisted in linear, nodular or irregular patches, distinctly raised above the surface-level, differing in color from the surrounding membrane and dis-

tributed especially along the cornu Ammonis and the lateral ventricular wall. In the left hemisphere, the condition of the ependymal lining could be ascertained only in the sphenoidal and occipital horns, owing to extensive symphysis ventriculi at the level of the head of the caudate nucleus. The changes exhibited the same features as in the other hemisphere but were far less pronounced. In the right hemisphere, a relatively recent hemorrhagic focus occupied the outer segment of the lenticular nucleus.

The brain was hardened in Müller's fluid for approximately one year, then passed through the various alcoholic solutions and imbedded in celloidin. One thousand serial sections were obtained from the left hemisphere, five hundred from the right. Every fifth section (in certain regions, every third) was utilized for the study of the case. The staining method employed was that of Weigert-Pal. A few unusually thin sections were stained for the study of the nerve cells with Van Gieson's solution, carmine, haematoxylin and eosin, etc.

MICROSCOPIC DESCRIPTION

Left Hemisphere

Frontal Lobe.—The anterior part of this lobe (Fig. 1) is constituted essentially by an agglomeration of islands of gray matter, most irregular in size and disposition, rounded or oval in outline, and separated from one another by slender nerve fasciculi, thus producing a typical mosaic appearance. It would seem as if the centrum semiovale had been invaded on all sides by an inward progressing hyperplasia of the cortex and that the deep white matter had thus been mechanically stretched and dissociated so as to form ultimately a sort of network in the interstices of which the migrating cortical substance has lodged. This peculiar condition evidently is to be regarded as an inordinate degree of heterotopy of the gray matter.

Along the lateral convexity exists a depressed area having a cicatricial aspect and presenting marked evidence of vascular changes; obliterated vessels, collections of blood-pigment, much thickened and adherent pia, peri-focal vacuolation. Beneath this cicatricial margin, a vertically-directed, unusually dark-stained fasciculus is seen, which apparently courses to the superior frontal convolution. Below, it is continuous with a triangular and very compact field of fibres situated near the middle of the orbital surface of the frontal lobe. This triangular bundle, the exact character and relations of which are not absolutely clear to us, courses backward towards the basal ganglia, occupying throughout practically the same domain along the middle of the inferior or orbital border of the frontal lobe. It then gradually becomes more superficial and even projects beyond the

surface at the level of the temporal pole. We shall resume its consideration at that point.

In the posterior part of the frontal lobe (Pl. ii-A) and corresponding to the level where the caudate and lenticular nuclei enclose the anterior limb of the internal capsule, a narrow slit appears above and to the inner side of the head of the caudate nucleus and marks the site of the much altered frontal horn of the lateral ventricle. Anterior to this point, the frontal horn is completely obliterated owing to absolute symphysis of its walls; the head of the caudate nucleus being separated from the deep substance of the mesial hemispheral convolutions only by an arched fibrous septum. As we consider more and more posterior levels, this ventricular slit slowly widens, but presents, at varying intervals, repeated fusion of

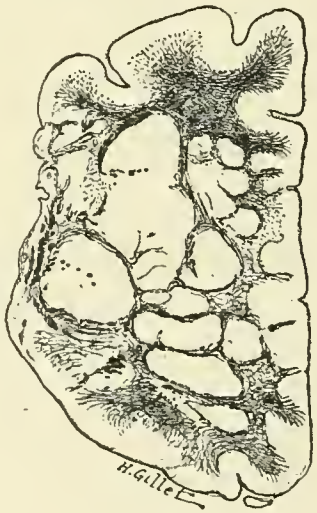


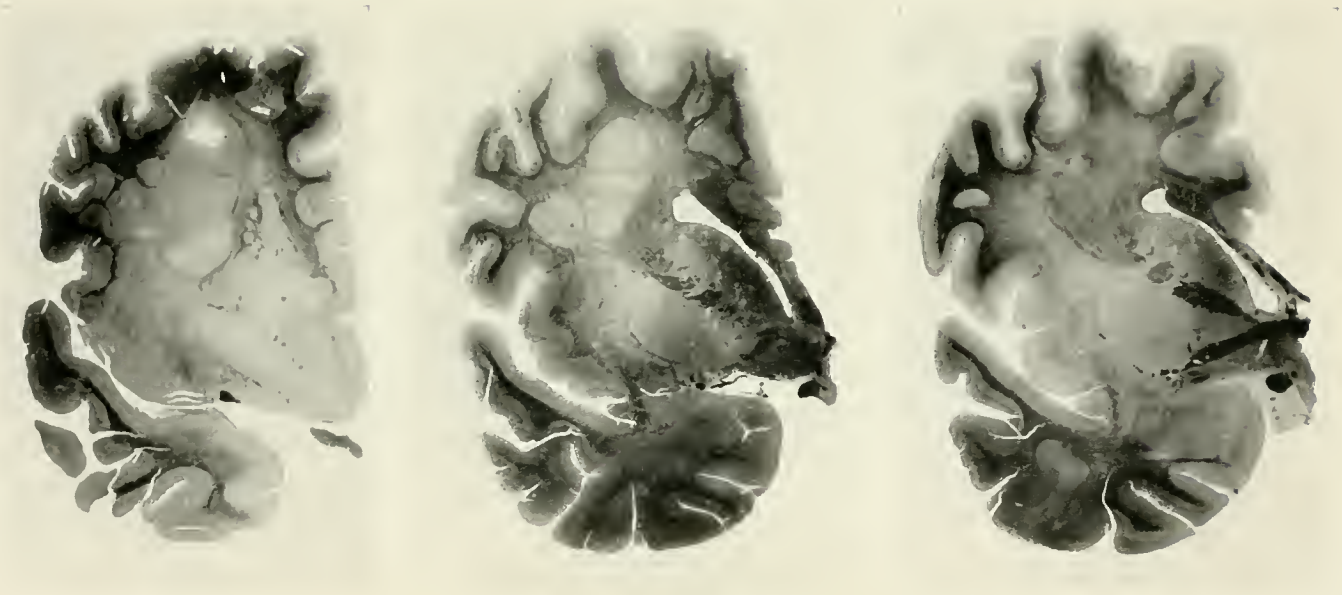
FIG. 1.

its walls; more or less complete symphysis alternating most irregularly with relative or complete patency. The frontal horn (Pl. ii-B) thus appears as a narrow cleft between the caudate nucleus and the mesial hemisphereal convolutions. It is invaded at various points by islands of gray matter which at its superior and inferior angles actually project into it, and is surrounded by a zone of pale yellowish nerve fibres. Its mesial wall is not formed as in the normal state by septum lucidum, but by a cortical process continuous above with the cortex of the mesial convolutions and below with the lamina terminalis, the tuber cinereum and the innermost portion of the caudate nucleus. Beneath and to the mesial side of this nucleus, several fasciculi are observed which probably belong to the callosal system.

Throughout the posterior portion of the frontal lobe, the two sagittal layers of the corona radiata can readily be made out, although they are

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A B C

PLATE II

extremely dissociated and distorted by the heterotopic gray matter which is still abundant in the lateral region of the hemisphere. Along the mesial wall of the ventricular cleft and in the depth of the convolution which we assume to be the analogue of the gyrus fornicatus, there gradually develops a conglomerate field of fibres in the constitution of which there undoubtedly enter several distinct fibre-systems. A large number of these fibres are poorly stained, rather yellowish, and are directly continuous with the subependymal fibre-zone. These partly degenerated fibres we

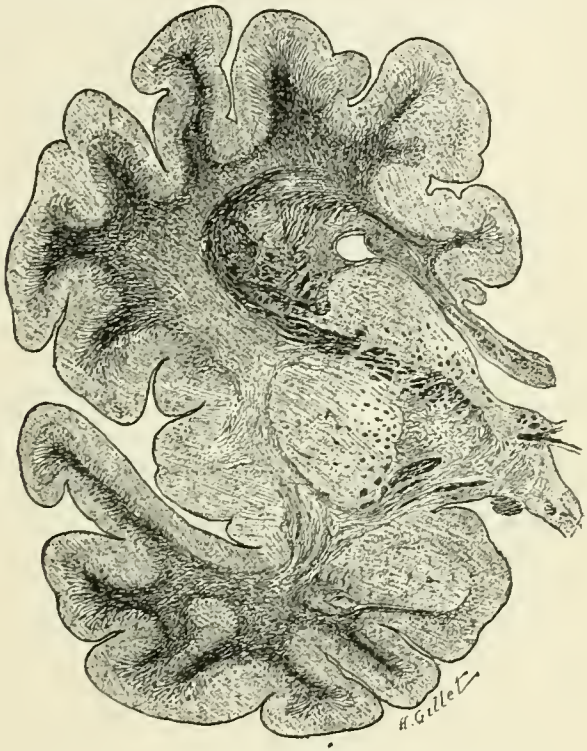


FIG. 2.

attribute to the callosal system, as the subependymal stratum is itself formed, exactly as in the normal state, by delicate fibres which converge from all points of the cortex to the superior angle of the ventricle and which can be none other than callosal radiations. The radiations derived from the lower regions of the convexity form several pale fasciculi which reach the subependymal layer by ascending along the mesial side of the corona radiata. Aside from this assumed callosal element, the fibre-mass situated in the mesial wall of the frontal horn receives very distinctly fibres from the internal sagittal layer of the corona radiata and undoubtedly lodges, in part at least, the frontal segment of the cingulum. All

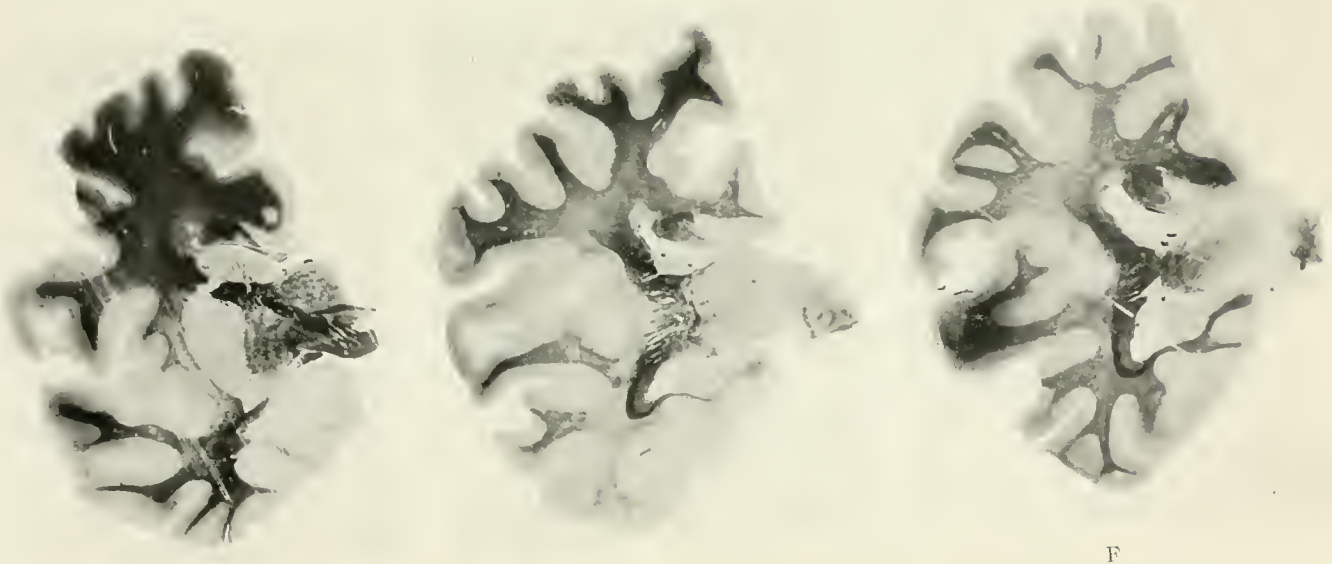
of these fibres however are inseparably blended at one point. The external capsule is totally degenerated.

At the level where the anterior commissure (Pl. ii-C) traverses the corpus striatum to reach the middle line, the mesial wall of the frontal horn receives the descending anterior pillar of the fornix which occupies approximately its lower half. The fornix is well-stained though somewhat atrophied and is divided into four segments, the lowest being situated immediately above the optic tract, the highest joining the conglomerate mass of fibres which occupies the depth of the gyrus fornicatus. Posterior to the anterior commissure (Fig. 2) the limiting mesial gray matter of the frontal horn no longer reaches the base of the brain, but ceases abruptly immediately below the upper segment or body of the fornix which thus forms a free pointed process directed downward and mesially towards the interhemispheral fissure. The conglomerate field of fibres situated at the superior angle of the ventricle and in the depth of the gyrus fornicatus gradually gains in volume and forms a compact club-shaped field which projects more and more into the ventricular cavity. It is separated from the head of the caudate nucleus only by the apposed ventricular walls. This field contains the fibres of both the callosal system and the cingulum and is continuous mesially and inferiorly with the body of the fornix. Above it, the internal sagittal layer of the fronto-parietal corona radiata can be seen to pass directly as one solid fasciculus into the cortex of the gyrus fornicatus. The external sagittal layer is still partly dissociated by islands of heterotopic gray matter but can be easily followed to the mesial convolutions and to the superior hemispheral border. The claustrum appears abnormally wide and fuses above with the subcortical insular griseum. The external capsule is totally discolored. From its superior extremity pale fasciculi are given off which traverse the whole breadth of the corona radiata and join the subependymal layer. These fibres represent, in our opinion, the callosal radiations derived from the lateral temporal convolutions and from the island of Reil. It is from the superior hemispheral border that the callosal radiations can be most directly followed into the subependymal zone.

As the pole of the temporal lobe comes into view (Fig. 2), the triangular bundle previously described in connection with the lower border of the frontal lobe undergoes important modifications as regards both its configuration and its course. It becomes divided transversely into two segments which occupy the substantia innominata of Reichert and gradually assume a mesial direction. Both these segments are subsequently further subdivided and then apparently pursue a different course. The upper group of small fasciculi closely surrounds the intra-lenticular portion of the anterior commissure and becomes lost in the intricate meshwork of the globus pallidus; the lower group forms two transversely directed fasciculi which evidently pass into the tuber cinereum but blend more or less with the ansa lenticularis. It is possible that these fasciculi derived from the triangular bundle may represent aberrant fasciculi either of the corona radiata or of the olfactory tract.

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D E F

PLATE III

Parieto-temporal lobe.—In the anterior part of this region (Pl. iii-D) and corresponding to the anterior half of the optic thalamus, the ventricular symphysis is again almost complete and the body of the lateral ventricle has dwindled down to a mere foramen situated between the caudate nucleus and the base of the corona radiata. The fornix is adherent to the ventricular surface of the caudate nucleus and the two structures are separated only by an irregular fibrous line representing the greatly disorganized ventricular wall. The abnormality of this disposition is to be explained by the peculiar inversion which the fornix has undergone, evidently as the result of severe pial and ventricular lesions. Remaining attached at its lower extremity by means of the choroid plexus to the dorsal surface of the optic thalamus, the body of the fornix, which, in the normal state, has an obliquely mesial direction and is more or less approximated to its fellow of the opposite side, has been completely deflected laterally and become invaginated within the hemispheral substance. Thus, its lateral surface which normally constitutes the mesial wall of the body of the ventricle has been brought in contact with the caudate nucleus, and its mesial surface normally directed towards the velum interpositum has been incorporated into the deep substance of the mesial hemispheral convolutions. That such an extreme malposition has developed is well shown by the presence above the lower end of the fornix, between it and the gyrus fornicatus, of a cluster of choroid plexus evidently pulled up from the cavity of the third ventricle. The velum interpositum has therefore been in great part destroyed and with it, of course, the roof of the third ventricle. Pial shreds, obliterated vessels, clumps of blood-pigment, disorganized cortex, etc., abound in the vicinity of the gyrus fornicatus and along the mesial surface of the optic thalamus and unquestionably mark the site of a severe foetal inflammatory process. The deep substance of the gyrus fornicatus is occupied throughout the parietal lobe by the composite club-shaped mass of fibres previously described, and which, for convenience of description and to avoid useless repetitions, we shall hereafter refer to as the *mesial sagittal bundle.* This bundle constantly receives additional fibres from the adjacent subependymal zone which reach it in gently curved and mesially-directed fasciculi and later assume a sagittal or anteroposterior direction. The superior portion of this bundle is occupied by the parietal cingulum, but both categories of fibres are so intimately blended that it is absolutely impossible to define even approximately their relative boundaries. Our main criterion in judging of the presence of the cingulum in this highly complex fibre-mass, is the very distinctive staining reaction of the cingulum which invariably presents a greenish hue, and which, in this particular instance, is all the more striking owing to the partial degeneration of the adjacent fibres of the callosal system. The mesial sagittal bundle also blends below, to a slight extent, with the lateral portion of the fornix; a pial process derived from the velum interpositum partly separating the two structures mesially. Moreover, the difference in the calibre, staining-reaction, arrangement and direction of the constituent fibres of the two systems, renders it relatively easy to distinguish between them. It can be seen that a loop-like fasci-

culus derived from the fornix passes laterally, traverses the subependymal layer and then curves mesially towards the lower border of the gyrus fornicatus, thus forming a sort of sling which encloses the mesial sagittal bundle.

The parietal corona radiata seems to be divided (Fig. 3) into three sagittal layers, but on closer inspection it is seen that the innermost layer is made up of smooth pale fasciculi having an obliquely vertical direction and which simply traverse the base of the corona radiata and the subependymal layer in their course from the external capsule to the mesial

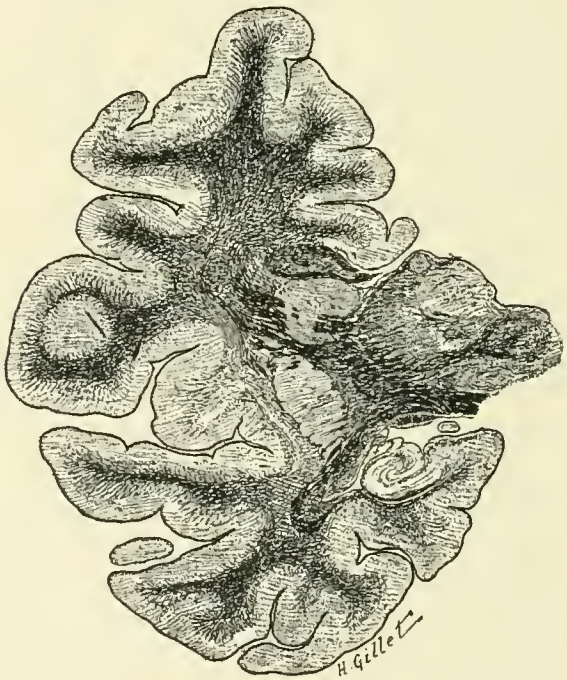


FIG. 3.

sagittal bundle. Of the two sagittal layers of the corona radiata proper, inversely to the normal arrangement, it is the inner lamella which is the broader; the outer forming a slender sickle-shaped layer which reaches from the upper end of the external capsule to the superior hemispheral convolution (ascending frontal or ascending parietal). Throughout the parietal lobe, distinct fasciculi are detached from the internal sagittal projection layer and can be followed uninterruptdly into the subcortex of the gyrus fornicatus. These fasciculi are derived in great part from the anterior tubercle and dorsal nucleus of the optic thalamus.

In the temporal lobe the sphenoidal horn is very small, constituting hardly more than a transversely-directed slit; its choroid plexus however

is apparently normal and its ependyma presents no appreciable changes. The deep sagittal layers are practically normal save for a very distinct discoloration of the sub-ventricular tapetum and internal sagittal layer, particularly at the level which corresponds to Luys's body. The temporal cingulum is perfectly developed.

The external capsule remains markedly discolored in its lower segment throughout the parietal lobe, but receives in its upper segment, as more and more posterior levels are considered, a progressively increasing number of well stained projection fasciculi from the adjacent field of the corona radiata. The association bundles of the lateral hemispheral region, the fasciculi arcuatus et uncinatus, are fairly well outlined though not as amply developed as in the normal cerebrum.

In the posterior part of the parieto-temporal lobe (Pl. iii-E) and corresponding to the pulvinar of the optic thalamus and to the external geniculate body, the lateral ventricle is totally patent although forming but a shallow transversely-directed cavity between the caudate nucleus and the body of the fornix. Behind this point, however, it steadily gains in chamber capacity and exhibits no further fusion of its walls. The mesial sagittal bundle has become much more voluminous and still blends laterally with the deep substance of the gyrus fornicatus; its mesial portion forms, together with the fornix, a free blunt-pointed process which advances mesially between the under surface of the gyrus fornicatus and the dorsal or superior border of the optic thalamus. In fact, at this level, the conglomerate mass of fibres situated above and partly to the inner side of the body of the lateral ventricle forms an irregularly rectangular field which can be seen to consist of three rather ill-defined zones superimposed one above the other. The first, from above downward, is represented by the cingulum which has become much more clearly differentiated and whose fibres are relatively well stained. It would seem as if it had been displaced downward and mesially and even in great part extruded from the depth of the gyrus fornicatus; a few of its fasciculi however are distinctly seen to course laterally and to disappear in the subcortex of this convolution. The second zone is represented by the mesial sagittal bundle (sagittal callosal bundle) and constitutes the main bulk of the field under consideration. Its mesial portion situated above the fornix is distinctly degenerated; its lateral portion which is directly continuous with the subependymal layer is gradually gaining in number of well stained myelin sheaths. The third and lowermost zone is formed by the fornix whose mesial segment is appreciably degenerated and connected with the dorsal surface of the optic thalamus by a cluster of choroid plexus. The ventricular cavity is thus closed mesially. The fornix is separated above from the mesial sagittal bundle by a notch and more laterally by a vascular septum evidently derived from the velum interpositum, as it is continuous above the fornix with a delicate membrane which passes mesially between the gyrus fornicatus and the dorsal surface of the optic thalamus to finally terminate above the pineal gland. This vascular membrane is tightly adherent to both the optic thalamus and the gyrus fornicatus which are thus practically fused together, and the entire field seems to have been the

seat of a severe inflammatory process as the caudate nucleus, the nucleus dorsalis diffusus thalami and the mesial surface of the thalamus are teeming with vascular alterations, and the overlying cortex is markedly disorganized. The ganglion habenulae forms a less distinct prominence than in the normal state and is in great part deeply imbedded in the substance of the mesial nucleus of the thalamus. Its relations to the dorsal segment of posterior commissure, to the fasciculus retroflexus of Meynert and to the taeniae thalami and anterior thalamic tubercle are unusually well defined. The posterior brachium of the corpora quadrigemina can be followed uninterruptedly into the internal geniculate body which is separated from the external geniculate body by an abnormally wide and deep notch. A small focus of encephalomalacia occupies the mesial nucleus of the optic thalamus and has determined a slight degeneration of the adjacent portion of the internal capsule. The pineal gland is rather large and has been well deviated towards the left hemisphere, falling distinctly outside of the middle line.

The parietal corona radiata presents no abnormal feature at this level; its internal layer still courses most distinctly to the subcortex of the gyrus fornicatus and is obliquely traversed by loosely-textured fasciculi derived from the superior hemispheral border (ascending parietal convolution and paracentral lobule) and which join directly the mesial sagittal bundle.

The temporal corona radiata likewise presents but few additional points of interest. The vertical segment of the external sagittal layer receives several deeply stained fasciculi directly from the external geniculate body (geniculo-calcarine fibres) and also cortical radiations from the superior portion of the first temporal convolution which can be followed uninterruptedly into the internal geniculate body. The subventricular tapetum and internal sagittal layer are still appreciably discolored at certain levels. The sphenoidal horn is now practically of normal size and presents no distinct ependymal lesions. The temporal cingulum is well developed and perfectly normal.

The external capsule gradually becomes richer in well-stained fibres throughout its vertical extent, receives deep blue fasciculi which either come from or join the internal capsule by traversing the posterior portion of the lenticular nucleus, and transmits to the subependymal zone the callosal radiations of the lateral temporal convolutions. The fasciculus arcuatus is well defined. There is noted an extensive cortical fusion between the lobules of the island of Reil and the superior temporal gyrus.

In the interval between the posterior extremity of the pulvinar of the optic thalamus and the full development of the descending horn of the lateral ventricle (Pl. iii-F), the mesial sagittal bundle rapidly gains in volume and the arrangement of its fibres becomes more complex. Its lateral portion is occupied by several intersecting loop-like fasciculi whose constituent fibres are cut longitudinally and pursue a mesial course. These fasciculi which form in the adjacent subependymal zone are so disposed that the fibres derived from the external capsule ascend along the lateral ventricular wall and pass into the most superior portion of the mesial sagittal bundle, while the fibres derived from the superior hemispheral re-

gion join its lowermost portion. A forceps arrangement is thus produced which closely suggests the similar arrangement described by Anton in connection with the callosal system of the normal cerebral hemisphere. The cingulum seems to occupy the oval field enclosed by the mesial prolongation of these fasciculi after their intersection and would thus appear to have been incorporated into the substance of the mesial sagittal bundle. Between the underlying body of the fornix and the mesial sagittal bundle,

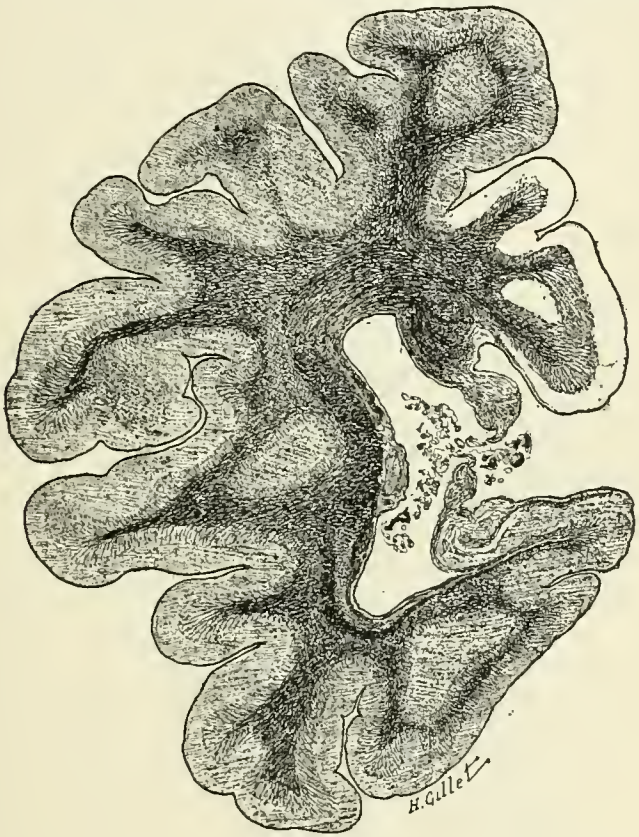


FIG. 4.

a distinct line of cleavage obtains mesially; the lateral portions of the two systems however remain poorly differentiated. Transversely directed fasciculi still pass in curves from the fornix to the lower portion of the gyrus fornicatus by traversing the lateral segment of the mesial sagittal bundle. That portion of the mesial sagittal bundle which borders directly upon the ventricular wall as well as the subependymal zone and the two segments of the fornix (superior and inferior) are appreciably degenerated, owing probably to their proximity to the ventricular changes which at this level

are again of severe grade. The ependymal lining is filled with altered blood-vessels and presents an irregularly thickened and beaded contour and ependymal processes project into the lumen from the ventricular surface of the caudate nucleus. The internal sagittal layer still courses directly to the lower lobule of the gyrus fornicatus.

At the level of the full development of the descending horn of the lateral ventricle, we find, as the direct continuation of the mesial sagittal bundle, a perfectly typical forceps major formation (Fig. 4) which differs from the normal callosal forceps only in point of volume and in the fact that it does not advance as far mesially beneath the cortex of the limbic isthmus. The mesial sagittal bundle has gained incredibly in volume, now stretches downward outside the lateral ventricular wall and even sends a few slender fasciculi into the temporal tapetum along the mesial surface of the descending caudate nucleus. The lower cortex of the gyrus fornicatus gradually merges into that of the gyrus hippocampi and there simultaneously takes place a fusion of the fornicate and hippocampal pillars of the fornix. The mesial wall of the ventricle is bounded at this level by the joint fibres of the fornix and mesial sagittal bundle, between which there is no longer any appreciable line of demarcation. Nevertheless, owing to the fact that the fornix is very distinctly degenerated and that its fibres are rather of a yellowish brown color, whereas the fibres of the mesial sagittal bundle take a much deeper blue stain, the relative domain of each system can still be approximately defined. The fibres of the mesial sagittal bundle are seen to gradually descend along the mesial ventricular wall and then to pass into the subcortex of the inferior portion of the limbic isthmus by crossing obliquely the coarse fasciculi of the fornix. The latter are thus displaced mesially and their uppermost fibres can be distinctly followed through the thickness of the mesial sagittal bundle into the superior portion of the limbic isthmus. There evidently occurs, therefore, a true decussation of the constituent fibres of the two systems; the fornix which is subventricular below becoming subcortical above and the mesial sagittal bundle which is subventricular above becoming subcortical below. More posteriorly, however, the fibres of the mesial sagittal bundle, in their downward course along the mesial ventricular wall, remain subventricular throughout and are directly continuous with the temporal tapetum. The fornix fibres are now confined to the subcortex of the limbic isthmus throughout its vertical extent. Thus, the fibres of the mesial sagittal bundle, or truly speaking, the callosal system, completely surround the ventricular cavity and ultimately constitute the entire tapetum. The tapetum as a whole is far less voluminous than the normal tapetum; its constituent fibres are more loosely arranged and its temporal segment consists only of a few delicate though relatively well-stained strands. At several points, it appears distinctly degenerated, but this is probably attributable in great part to the neighboring ependymal lesions. The ventricular lining has an irregularly beaded contour owing to the presence of numerous large, rounded, black staining bodies, of obscure nature but presumably of vascular origin. The ventricular surface of the limbic isthmus presents a triangular cicatricial

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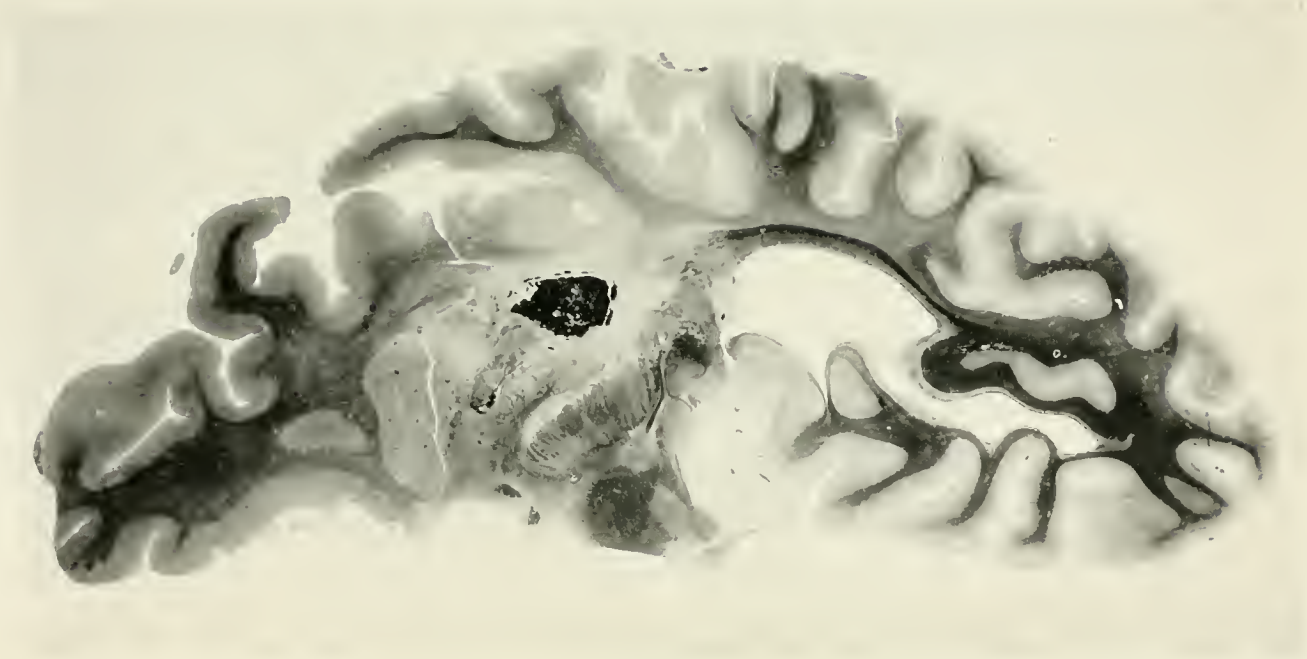


PLATE IV

area totally devoid of fibres beyond a few stray fibrils derived from the callosal system.

The internal sagittal layer of the parietal corona radiata again courses most distinctly to the dorsal segment of the limbic isthmus. The subventricular internal sagittal layer of the temporal corona radiata is appreciably degenerated particularly along the mesial wall of the sphenoidal horn. The temporal cingulum remains well-defined but the parietal cingulum becomes progressively dissociated and finally escapes observation entirely.

Occipital lobe.—With the exception of a few peculiarities this lobe does not differ materially from that of the normal cerebral hemisphere. The occipital horn is practically normal in size but its lining ependyma is markedly disorganized particularly along the mesial wall. The tapetum, although atrophied, is relatively well-stained and is formed by the fan-shaped posterior expansion of the mesial sagittal bundle. The internal sagittal layer is almost completely degenerated along the mesial wall of the occipital horn. The external sagittal layer is remarkably well-defined throughout and completely surrounds the posterior horn. Its constituent fibres can be followed with the greatest facility into the subcortical zone of both the upper and the lower lips of the calcarine fissure. Owing to the fact that this fissure is extremely shallow, the calcar avis is only vaguely outlined. The perpendicular fasciculus of Wernicke and the lingual fasciculus of Vialet are well developed but the fasciculus proprius cunei of Sachs is apparently wanting entirely. The deep white matter of the lateral convolutions is appreciably discolored throughout its vertical extent.

Right Hemisphere

In describing this series of horizontal sections, it seems to us to be both practical and advantageous to start with the more inferior or ventral sections and to discuss at the same time the various peculiarities presented by the different lobes, so that the description will be one of horizontal levels rather than of individual lobes.

In sections passing through the base of the hemisphere at the level of the full development of the intra-hemispheric portion of the anterior commissure (Pl. iv), the temporo-occipital horn of the lateral ventricle and its surrounding fibre-strata present many unusual features. The ventricular lining is nowhere intact, the ependyma has been so completely undermined and disorganized that there remains of the original wall but an irregular jagged line. Ventricular symphysis of limited extent obtains, moreover, at two different points in the occipital horn. A well-defined tapetum exists only along the anterior portion of the lateral ventricular wall and tapers down rapidly towards the occipital region; corresponding to the posterior portion of the lateral wall and to the whole of the mesial wall, the tapetum is totally wanting. Owing to this circumstance, the periventricular sagittal layers in the latter regions present a rather curious and somewhat puzzling aspect. While the external sagittal layer appears throughout perfectly well-developed and normally disposed, the internal sagittal layer on the contrary seems appreciably degenerated. Closer study

however shows this to be purely factitious. The fibres of the internal sagittal layer, which even in the normal state are distinctly finer and paler than those of the surrounding fibre strata, have, in this case, become much relaxed, more loosely arranged, owing to the absence of the tapetum whose territory they occupy in even greater numbers than their own. This peculiar disposition was at first so perplexing as to lead us to regard this layer as the tapetum and the internal sagittal layer as almost totally degenerated. Careful study of the serial sections, however, enabled us to ascertain without doubt that these fibres become directly continuous with the internal sagittal layer, and not with the tapetum, along the anterior portion of the lateral ventricular wall where both structures are sharply differentiated.

The hemi-peduncle and the structures which form the floor of the third ventricle present no material deviation from the normal, save that the tuber cinereum and the corpus mammillarium appear unusually large. Severe vascular changes are observed mesial to the geniculate bodies, in the vicinity of the hippocampal fissure, between the pes pedunculi and the optic tract and in the domain of the corpus mammillarium.

The intra-hemispheric course of the anterior commissure can be followed throughout with the greatest facility. Aside from its well isolated massive segment which occupies the ventral and basal portion of the corpus striatum and which even macroscopically can be easily followed anteriorly to the middle line, its far more complex and ill-understood relations to the retro-lenticular fibre-strata and to the temporal sagittal layers can be readily ascertained. It can be distinctly seen that posterior to the lenticular nucleus, the constituent fibres of the anterior commissure gradually unfurl and pass in fan-shaped fasciculi mesially towards the tapetum by traversing rather obliquely the whole breadth of the base of the temporo-occipital corona radiata. They evidently come into relation with that portion of the tapetum situated immediately behind and beneath the sphenoidal prolongation of the caudate nucleus. The staining reaction of this portion of the tapetum moreover is identical with that of the anterior commissure. The termination of the bulk of the optic tract in the anterior and inferior portion of the external geniculate body, the relations of the latter structure to the external sagittal layer of the temporo-occipital lobe, the uninterrupted passage of Türck's fasciculus (temporo-ponto-cerebellar tract) from the sublenticular segment of the internal capsule into the outermost division of the pes pedunculi, are all anatomic details of importance which can be most plainly demonstrated in this series of sections. The external capsule is markedly discolored but the fasciculus uncinatus is relatively well stained.

The walls of the temporo-occipital horn present at slightly higher levels two distinct rounded prominences (Pl. iv) which recall, by their general configuration, the normal calcar avis, but project to a decidedly greater extent into the ventricular lumen. One is situated in the mesial wall, immediately behind the cornu Ammonis, the other at the corresponding point in the lateral wall; the two are joined together at a still higher level by a discolored membrane evidently derived from the ventricular lining. This symphysis ventriculi divides the temporo-occipital horn into

two irregular chambers and markedly distorts the axis of the ventricle and of the surrounding sagittal layers. What these two ventricular prominences represent is difficult to ascertain. They could result from abnormal depth of secondary sulci, but it seems more logical to regard them as islands of heterotopic gray matter as they dissociate the deep sagittal layers and present in their central portion the same structure as the cortex.

Corresponding to the full development of the basal ganglia and to the passage of the anterior commissure across the middle line, a fairly large, oval-shaped, recent hemorrhagic focus destroys in great part the outer segment of the lenticular nucleus and encroaches upon the dorsal or superior portion of the anterior commissure, which, on this account presents in subjacent sections a somewhat blotchy, degenerated appearance. The anterior commissure reaches the middle line through a delicate membranous fold overlying the optic chiasm and directly continuous with the lamina terminalis. This membrane is the seat of marked vascular changes.

The pulvinar caps over posteriorly the external geniculate body and receives numerous fibres (postero-inferior thalamic radiations) from the neighboring temporal sagittal layers through the retrolenticular segment of the internal capsule. The fibres of the brachium posterius pass directly into the internal geniculate body, while those of the brachium anterius pass in front of the latter body to reach the external geniculate body. Between the two geniculate bodies, the fibres of the brachium anterius are obliquely crossed by another set of fibres derived from the temporal lobe and which can be followed uninterruptedly through the posterior angle of the lenticular nucleus and behind the posterior limb of the internal capsule into the anterior portion of the internal geniculate body. This very distinct system of cortical radiations of the internal geniculate body has been well-described by von Monakow and by Mahaim. From Luy's body, a delicate fasciculus courses mesially towards the corpus mammillarium and represents the commissura hypothalamica posterior. The mesially directed segment of the ansa lenticularis apparently trifurcates; some of its fibres pass towards the tuber cinereum, others curve posteriorly and blend with the mesial capsule of the red nucleus, while still others wind around the pes pedunculi and join the anterior portion of Luys's body. The external capsule is almost totally discolored in its posterior half.

The ependyma of the temporo-occipital horn still exhibits widespread and severe changes. The tapetum gradually stretches over a more considerable antero-posterior extent but still remains confined to the temporal segment of the lateral ventricular wall. Throughout the occipital lobe and in the depth of the mesial convolutions there are thus but two sagittal layers. Nevertheless, short fibres can be seen to originate from the mesial hemispheral cortex and to pass towards the subependymal layer by traversing more or less obliquely the plane of the other fibres, so that the existence of a limited number of callosal radiations along the mesial wall may be safely assumed. The fimbria of the fornix is appreciably degenerated but lies in close proximity to severe vascular lesions. Anteriorly, between the lamina terminalis and the postero-internal angle

of the frontal lobe, an irregularly-shaped field of poorly-stained fibres gradually comes into view and its complex character will shortly be considered in describing higher horizontal levels. Behind the lamina terminalis, the anterior pillar of the fornix forms a well circumscribed field in the central gray matter.

In sections passing immediately above the anterior commissure, a slit-like opening appears to the mesial side of the head of the caudate nucleus and forms part of the frontal horn of the lateral ventricle which at this point is almost completely obliterated. The apposed ventricular walls form an arched fibrous septum which separates the caudate nucleus from the deep substance of the frontal lobe. At higher levels, this septum is replaced by a cleft which gradually widens until the entire frontal horn is canalized. Its mesial wall is formed, in part by the mesial convolutions of the frontal lobe, in part by a cortical process which joins the latter with the basal griseum situated to the mesial side of the genu of the internal capsule. In this process of gray matter are lodged the fibre-field above referred to as occupying the postero-internal angle of the frontal lobe and behind it the anterior pillar of the fornix. Both structures are poorly stained and are intimately connected mesially with a much altered pial membrane directly continuous with the lamina terminalis and which probably represents a remnant of the septum lucidum as it receives a number of fibres from the fornix. Vascular changes abound at this point and the proximal cortex of the frontal convolutions has been considerably disorganized.

Corresponding to the foramen of Monro (Pl. v.) and to the union of the lateral with the third ventricle, the fibre-field occupying the depth of the most posterior mesial convolution of the frontal lobe has gained considerably in volume and forms a well-defined fasciculus coursing horizontally along the mesial wall of the frontal horn. This stratum of fibres we attribute to the callosal system, and shall hereafter refer to it as the *mesial sagittal bundle,* in conformity with the terminology adopted in describing the left hemisphere. Anteriorly, this bundle curves outward in front of the frontal horn and blends more or less with the internal sagittal layer of the fronto-parietal corona radiata. Posteriorly, its fibres curve mesially and terminate abruptly at the bottom of a fissure which separates the lamina terminalis from the mesial frontal cortex. From this fissure, an ill-defined septum extends towards the ventricular lumen and serves to partly separate the mesial sagittal bundle from the anterior pillar of the fornix whose frontal portion forms a totally discolored triangular area. A certain number of fibres derived from the fornix can be plainly followed anteriorly beneath the mesial sagittal bundle and into the subependymal layer of the frontal horn. It would thus seem that, similarly to what has already been noted in connection with the left hemisphere, an inversion of the distal segment of the fornix had occurred. This supposition is rendered even more plausible by the fact that at slightly higher levels, the septum separating the mesial sagittal bundle from the fornix is converted into a cleft which lodges a pial process derived from the adjoining terminal membrane. This membranous structure consists, at this point, of

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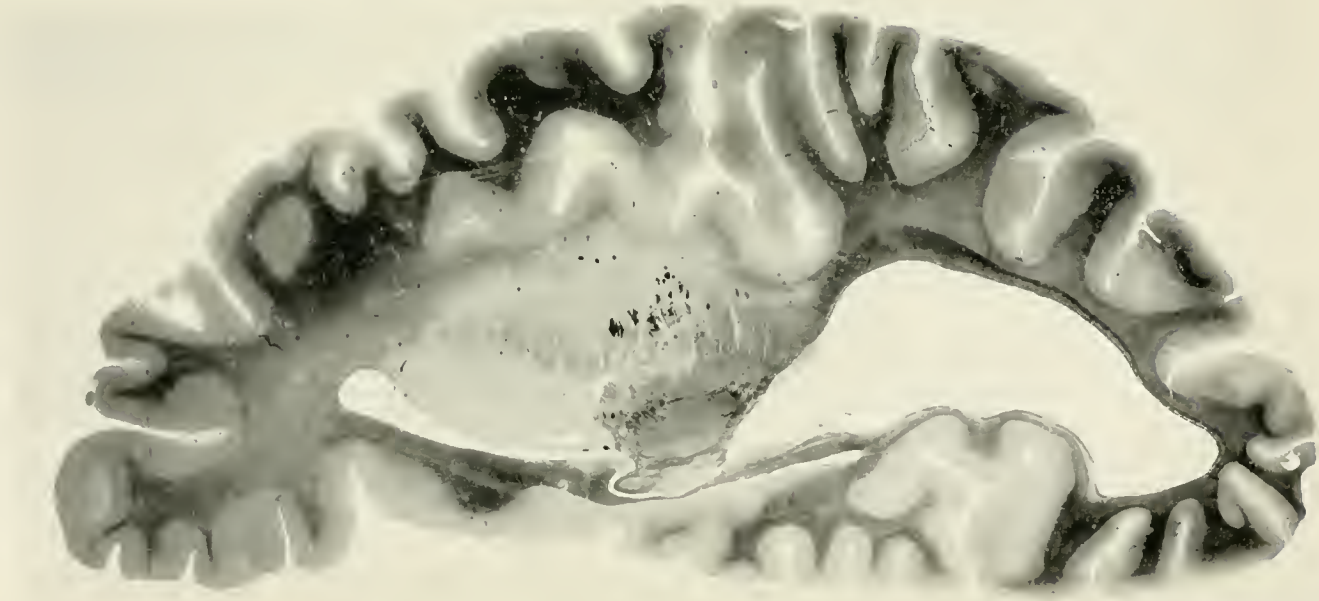


PLATE V

two distinct folds; one, posterior, which is still attached to the anterior pillar of the fornix from which it receives fibres, the other, anterior, which dips down into the afore-mentioned cleft and contains fibres evidently belonging to the callosal fasciculus. The whole appearance strongly suggests that this double membranous fold probably represents the involuted and partly invaginated homolateral segment of the septum lucidum. The extensive symphysis of the frontal horn may possibly be responsible for this abnormal disposition.

Severe vascular changes abound in the vicinity of the foramen of Monro and extend both towards the frontal horn and towards the cavity of the third ventricle. The ependymal lining of the mesial wall of the frontal horn presents a full row of nodular excrescences. Pial changes likewise are observed over the gyrus hippocampi and along the mesial surface of the frontal lobe. The commissura mollis and posterior commissure are well-developed.

At this level, the temporo-occipital horn is moderately dilated and its lining ependyma still presents at several points distinct evidence of disorganization. The peri-ventricular sagittal layers exhibit practically the same characteristics as in the more ventral regions, save that the tapetum now extends fully over the whole of the lateral ventricular wall. The mesial tapetum however is still totally wanting. The fimbria of the fornix is decidedly degenerated.

In the frontal lobe, the internal sagittal layer of the corona radiata, although interlacing more or less with the anterior portion of the mesial sagittal bundle, can be seen to curve mesially and to pass towards the posterior lobules (gyrus fornicatus) of the mesial frontal surface. The external sagittal layer can be followed directly to the frontal pole. Mesial to the mesial sagittal bundle and occupying the subcortex of the gyrus fornicatus, a well isolated slender fasciculus is gradually becoming more prominent and evidently represents the fronto-parietal segment of the cingulum. Its fibres course parallel with those of the mesial sagittal bundle and can be distinctly followed anteriorly as far as the frontal polar region. From all points of the convexity delicate fibres converge to the subependymal zone capping the frontal horn. The external capsule is almost totally degenerated.

In sections passing slightly below the dorsal or superior surface of the optic thalamus, there is attached to the mesial surface of this ganglion a fairly broad, much thickened and very vascular membrane, which undoubtedly represents the prolapsed remnant of the velum interpositum. It is continuous behind with the pial covering of the gyrus fornicatus, and, from it, is derived the choroid plexus which fills the greatly narrowed foramen of Monro. The much altered vessels which it contains and the greatly distorted mesial surface of the optic thalamus bear witness to the severity of the lesions which have involved this whole area and explain the abnormal relations which the neighboring structures have acquired. The broad elliptical area compassed in the normal cerebrum by the concavity of the corpus callosum has dwindled incredibly in this case owing in part to the absence of the callosal commissure and in part, certainly, to

the cicatricial contraction of the limiting interhemispheral pial membranes. The anterior pillar of the fornix, having evidently been compressed, appears as a flattened sickle-shaped fasciculus moulded over the prominent anterior tubercle of the optic thalamus. The gyrus fornicatus is drawn backward over the mesial sagittal bundle and even beyond the fornix. Similarly, the anterior lobule of the gyrus hippocampi is dragged forward along the mesial wall of the optic thalamus to a point which corresponds approximately to the vertical plane of the commissura mollis. Slightly above this level, the gyrus fornicatus (corresponding to the supra-callosal segment of this convolution in the normal hemisphere) is seen coursing horizontally along the whole length of the mesial surface of the optic thalamus from which it is separated only by a fold of the velum interpositum. It will thus be seen that the chamber capacity of the third ventricle has been very materially reduced.

The head of the caudate nucleus (Pl. v) is almost entirely divested of its ependymal covering and its marginal zone is partly disorganized. The frontal horn forms a narrow club-shaped cavity having about the normal antero-posterior extension. Along the mesial wall of the temporal horn and to the inner side of the fimbria of the fornix, which forms at this point the immediate extraventricular layer, several sagittally-directed blue-stained fasciculi have developed which unquestionably represent the restored callosal complement of the mesial sagittal layers. Posteriorly, these fasciculi cross the fornix fibres obliquely and form the mesial tapetum for a variable distance, blending near the calcarine fissure with the internal sagittal marrow. Short fibres can be seen coming from the mesial cortex of the temporo-occipital lobe which cross the deep sagittal strata at right angles and then disappear in the tapetal layer.

Above the dorsal surface of the optic thalamus, the completely canalized lateral ventricle comes into view and is moderately dilated in its temporo-occipital segment. A process of the velum interpositum is still visible and supplies the frontal and sphenoidal horns with choroid plexes. To its inner side, the anterior and posterior pillars of the fornix have fused to form the body of this organ which is appreciably discolored throughout and presents, near its middle, a vascular focus which probably explains the degenerated field observed at lower levels in its anterior pillar. The above described mesial fasciculi of the temporo-occipital tapetum have gained rapidly in volume and, extending forward, have joined the likewise rapidly developing mesial sagittal bundle to form a broad, horizontally-coursing fasciculus, which reaches all the way from the mesial subependymal zone of the frontal horn to the tapetal layer capping the calcar avis. The mesial sagittal bundle (Balkenlängsbundel of Probst) constitutes, at this level, the most mesial fibre-system of the hemisphere, covers over mesially the body of the fornix and is separated from the overhanging cortex of the gyrus fornicatus by a delicate fold of the pia mater. Anteriorly and posteriorly, it blends with the deep substance of the gyrus fornicatus and is completely traversed by numerous short fibres which originate in this convolution and join the body of the fornix (fornix longus of certain authors). The relations of the mesial sagittal bundle and fornix system

are both complex and interesting and deserve additional consideration. At this level, the fornix is situated immediately beneath the middle portion of the internal ventricular wall and is prolonged both anteriorly and posteriorly for a short distance into the subependymal zone of the frontal and sphenoidal horns respectively, receiving, as already stated, in the latter situations, fibres from the gyrus fornicatus which in order to reach it traverse the entire breadth of the mesial sagittal bundle. Although inseparable at certain points, the two systems are fairly well differentiated at others, owing to the presence of an intervening lighter zone which is of immense service in appreciating the subsequent changes in their relative disposition. As we consider higher and higher levels, it is seen that with the progressively increasing development of the mesial sagittal bundle and the concomitant disappearance of the fornix system, an exchange of territory slowly takes place between the two structures; the remnant of the fornix being gradually sifted through the whole thickness of the mesial sagittal bundle and finally appearing as a narrow line of short transversely-directed fibres in the depth of the gyrus fornicatus. The progress of this interchange of domain between the mesial sagittal bundle and the fornix can be all the more readily followed owing to the fact that the fibres of the former are deeply stained and those of the latter diffusely degenerated. In its passage through the substance of the mesial sagittal bundle, the fornix appears as a pallid lyra-like zone (Fig. 5) which slowly migrates from the subependymal layer into the deep marrow of the gyrus fornicatus. The mesial sagittal bundle thus forms eventually the innermost peri-ventricular layer, or tapetum, along the whole length of the mesial wall of the lateral ventricle. The narrow striated zone of short transversely-directed fornix fibres still remains under observation in a fair number of more dorsally situated sections and constitutes a prominent line of demarcation between the mesial sagittal bundle and the well-developed cingulum which courses parallel to it in the subcortex of the gyrus fornicatus. The cingulum appears as a beautifully isolated linear sagittal fasciculus which occupies the whole length of this convolution and whose most anterior fibres can be followed as far as the frontal polar region.

The caudate nucleus accompanied by the stria cornea is seen coursing horizontally backward over the dorsal surface of the optic thalamus and presents along its lateral margin a fairly recent hemorrhagic infiltration. Its ventricular surface is still the seat of severe ependymal changes which are likewise observed along the lateral wall of the temporo-occipital horn where they reach their maximum intensity. At this point, two large nodular excrescences project into the lumen of the ventricle. The posterior nodule is asssociated with a fairly extensive patch of encephalomalacia which completely severs the periventricular sagittal layers and destroys the posterior lobule of the supramarginal gyrus and the adjacent portion of the angular gyrus. As a consequence, the whole subcortex of the lateral parietal region is markedly discolored. The anterior nodule is much more voluminous and subsequently leads to limited symphysis ventriculi. The occipital horn is particularly involved and is itself the seat of more extensive

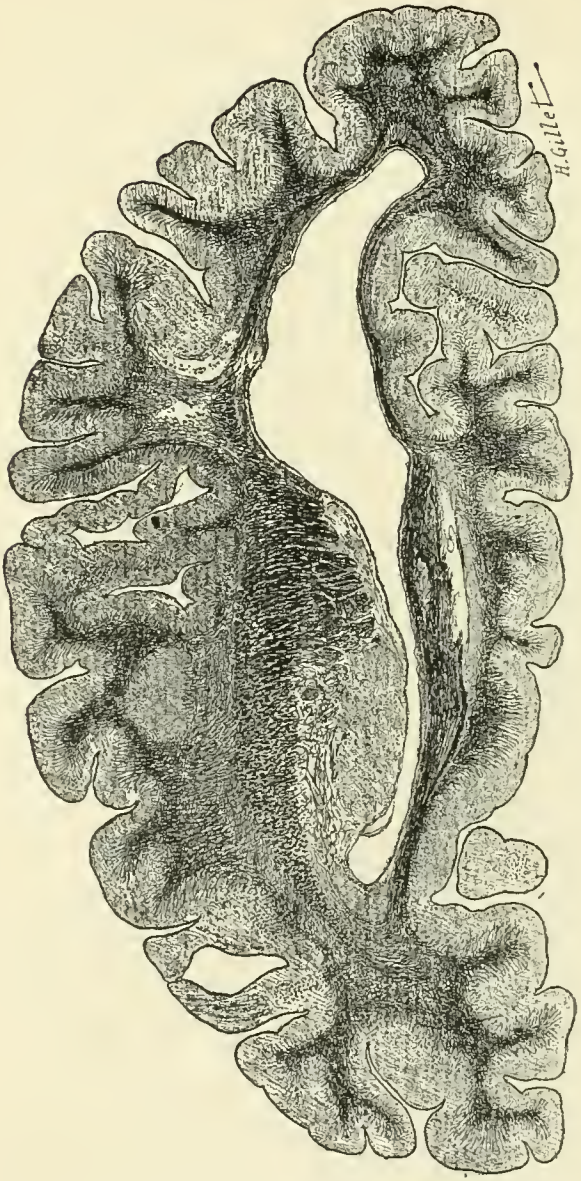


FIG. 5.

symphysis. Throughout this region, a well-defined tapetum completely encircles the temporo-occipital horn.

The internal and external sagittal layers of the fronto-parietal corona radiata are beautifully outlined. The external layer courses in part to the frontal pole, in part to the mesial frontal cortex, and is traversed by the

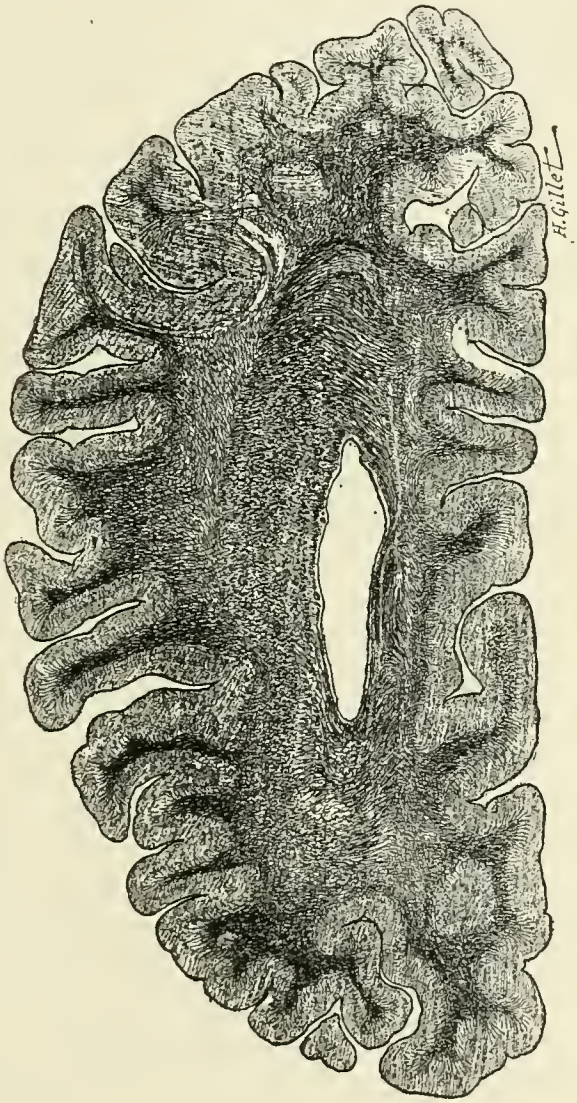


FIG. 6.

callosal radiations derived from the convexity. These radiations form unusually solid and well-stained fasciculi and blend more or less, in their passage towards the subependymal zone with the fibres of the internal sagittal layer which still course to the anterior portion of the gyrus fornicatus.

In the remaining sections (Fig. 6), which pass, some beneath others through, the roof of the lateral ventricle, the main interest resides in the study of the further development of the callosal system. The mesial sagittal bundle which broadens out more and more becomes the sole fasciculus of the mesial hemispheral region and forms together with the lateral tapetum, with which it is directly continuous, an indivisible fibre-system which walls in on all sides the dorsal portion of the lateral ventricle. Posteriorly, as it surrounds the occipital horn, it presents a typical forceps major arrangement which differs in no wise from that of a normal horizontal section taken from the same level. That this fibre-system is none other than the non-commissural, abnormally-disposed, homolateral segment of the corpus callosum, appears to us most unquestionable.

Along the mesial ventricular wall, the sagittal bundle is subsequently thrown into folds and its constituent fasciculi gradually assume a more or less oblique or transverse direction. They ultimately pass outward over the roof of the ventricle and become directly continuous with the simultaneously rearranged fasciculi of the lateral tapetum. Throughout, the roof of the ventricle is teeming with ependymal and subependymal lesions which are particularly accentuated in its posterior portion. Pial changes are likewise observed at this level both over the convexity and along the mesial hemispheral surface.

Résumé and Interpretation

We have just completed the detailed description of a typical case of so-called agenesia of the corpus callosum. The callosal commissure is certainly wanting, but does that necessarily imply a total absence of the callosal system? We do not believe so. The callosal system of the normal cerebrum comprises not only a compact median commissural segment, but also two lateral or intrahemispheric portions. In our case, these lateral segments or expansions are just as clearly defined as in the normal state. In either hemisphere, the subependymal layer is formed throughout by delicate fibres which come from all points of the cortex and which can be none other than callosal radiations. Having assembled in the neighborhood of the lateral ventricle, these fibres have formed a long sagittal fasciculus instead of crossing the middle line and radiating into the cortex of the opposite hemisphere. This sagittal fasciculus courses along the supero-internal angle of the ventricle and extends all the way

from the frontal to the occipital pole. At the level of the descending horn of the lateral ventricle, it becomes markedly thickened above and presents the typical appearance of the normal forceps major; below, it spreads out over the lateral and inferior ventricular wall and forms the tapetum.

Of course, as far as volume is concerned, the mesial sagittal bundle is not the equivalent of one lateral half of the normal corpus callosum, nor is the tapetum as amply developed as that of the normal cerebrum. But it must not be forgotten that in this case the mesial sagittal bundle and the tapetum are formed by the callosal radiations of one hemisphere only, whereas, in the normal state, the corresponding structures contain the callosal radiations of both hemispheres. This fact also explains the appreciable decrease in the amount of white matter.

As was stated in the beginning of this article, Anton attaches considerable importance to foetal hydrocephalus in the causation of agenesia of the corpus callosum. According to this author, the lesions of the ventricular ependyma are not only capable of impeding the development of the callosal system, but they may even determine its complete disappearance if they supervene after it has fully developed. There are two reasons which lead us to share this opinion unreservedly. In the first place, our previous researches have enabled us to ascertain that the intrahemispheric expansion of the corpus callosum forms in either hemisphere the immediate periventricular layer; it is therefore necessarily implicated in all destructive lesions of the ventricular lining. In the second place, we have abundant and unquestionable evidence that, in our case, the absence of the callosal commissure is directly attributable to ventricular lesions. Indeed, the traces of foetal meningitis and ependymitis are too striking to escape observation and it would be hardly possible to overlook the pathogenic significance of the multiple lesions which we have described: generalized thickening of the pia mater with cicatricial patch over the left frontal convexity, bilateral symphysis ventriculi of the anterior horns, intrahemispheric cicatricial retraction of the fornix and of the septum lucidum, widespread and severe alterations of the ventricular ependyma, etc. If the lesions of foetal ependymitis are quite sufficient in themselves to interfere with the normal development of the corpus callosum, how much more potent must be the complete

obliteration of both frontal horns. Embryology teaches us that during the third month of foetal life a fusion occurs between the mesial walls of the hemispheral vesicles immediately above and in front of the lamina terminalis. There results a local triangular thickening from the anterior portion of which the genu of the corpus callosum is developed. It is only between the fifth and sixth months that the union of the hemispheral vesicles extends behind this point to form the marginal crest from which the body and the splenium of the corpus callosum are derived. The development of the callosal commissure progresses therefore from before backward. Such being the case, symphysis of the frontal horns is all powerful in the causation of agenesia of the callosal commissure since it does not allow the anterior portions of the hemispherical vesicles to come in contact with each other.

The callosal commissure may be absent, either entirely or in part, but that does not justify us in assuming that the callosal system is totally wanting. Such a conclusion would be highly illogic. Otherwise, how could we explain the peculiar anomaly of the anterior commissure observed in the case reported by Arndt and Sklarek? These authors, it will be remembered, state that the anterior commissure is perfectly well-defined in its intrahemispheric course through the corpus striatum on either side, but that it is completely wanting in the middle line. In our opinion, this case represents the most valuable and instructive document in the literature of the subject, as it proves conclusively that an interhemispheric commissure may fail to develop in its median segment only. It naturally follows therefrom that the integrity of the tapetum in cases of agenesia does not militate in the least against its callosal origin. The fact is, moreover, that the tapetum is not always intact in agenesia of the corpus callosum as is well shown by the findings in our own case. It was distinctly seen, indeed, that the tapetum is totally wanting in the occipital region and along the mesial ventricular wall throughout the ventral half of the right hemisphere, and that it is markedly altered at various other points in both hemispheres. In order to prove that the tapetum is not formed by the corpus callosum it would be necessary to observe its integrity in cases in which the corpus callosum had been either destroyed by a lesion in situ or severed

experimentally. Thus far, the only experimental data which we possess regarding the nature and origin of the tapetum are those which were furnished by Muratoff's researches. Their demonstrative significance has been greatly exaggerated. In the first place, Muratoff admits that the experimental section of the corpus callosum has been followed by a partial degeneration of the tapetum. In the second place, the animal being sacrificed at the end of a few weeks, all that is observed is Wallerian degeneration. Under such circumstances, only the distal segments of the divided nerves are found degenerated, the proximal segments remaining perfectly intact in the hemisphere in which they take origin. It is evident therefore that even those who admit the callosal derivation of the tapetum cannot expect to find it completely degenerated after experimental sections of the callosal commissure. A complete sclerosis of the tapetum could only be observed after ascending or retrograde degeneration had supervened, and we know that this process rarely takes place until several years have elapsed.

A complete absence of the callosal system has never been observed and it is highly improbable that such an anomaly can exist. We have seen the importance of ventricular lesions in arresting the growth of the corpus callosum and particularly in preventing the formation of its commissural segment proper. These ventricular lesions however are not uniformly distributed, so that in many places, and sometimes over very considerable areas, the ependymal lining and the adjacent perlventricular callosal layer are perfectly intact. To wipe out entirely the callosal system, the ventricular lesions would necessarily have to be both generalized and uniformly severe.

The occipito-frontal fasciculus of Onufrowicz does not exist in the normal cerebrum. The structures which certain authors have so designated in the normal state are equally to be found in cases of agenesia and are well differentiated from the mesial sagittal bundle.

Cases of agenesia of the corpus callosum are of extreme value for the study of normal anatomy, as the course of a number of nerve-tracts can be followed much more readily than in the normal state.

The intimate relationship which exists between the mesial sagittal bundle and the fornix is a feature of particular interest

in this case, as it throws considerable light upon the derivation of the fornix. Throughout both series of sections, it could be distinctly seen that the fornix receives a large number of fibres from the gyrus fornicatus which reach it by traversing the entire thickness of the mesial sagittal bundle. The fornix is thus formed not only by fibres derived from the gyrus hippocampi but also by fibres which originate in the gyrus fornicatus and traverse the corpus callosum.

The external capsule is a structure of highly complex character. It unquestionably harbors the projection fibres which either go to or come from the island of Reil. It blends both above and below with the larger association tracts of the lateral hemispheral region. In our opinion, however, the external capsule represents above all a dependency of the corpus callosum. We have seen that it is greatly degenerated and that the topography and intensity of this degeneration coincide absolutely with the extent and severity of the ventricular and periventricular lesions. The external capsule transmits to the corpus callosum, the radiations of the Insula and of the temporal convexity.

The internal sagittal layer of the fronto-parietal corona radiata is particularly well defined in this case of agenesia, its sharp delimitation contrasting singularly with its poor differentiation in the normal cerebrum. The frontal sections are more favorable for its study than the horizontal sections and it could be distinctly seen, throughout the left fronto-parietal series, that this layer forms a well isolated fasciculus which courses directly to the subcortical zone of the gyrus fornicatus. This case thus enables us to confirm the hypothesis which we believe we were the first to formulate, namely, that the internal sagittal layer of the frontal-parietal lobe, the reticular zone of Sachs, represents the projection system of the gyrus fornicatus. We had previously demonstrated by means of secondary degeneration that the predominating element in this layer is formed by corticipetal fibres.

In the right hemisphere, we were able to follow the fibres of the anterior commissure across the base of the corona radiata and into the immediate vicinity of the sphenoidal prolongation of the caudate nucleus. We are therefore inclined to believe that these fibres enter into the constitution of the anterior portion of the temporal tapetum.

The histologic structure of the cortex in the areas presenting microgyria did not appear to us to differ materially from that of normal cortex, save that considerable and diffuse neurogliar proliferation was generally observed. We have no explanation to offer regarding the cause of microgyria, but we would call attention to the fact that its topography coincides to a remarkable degree with that of the meningeal lesions.

Conclusions.

1. In cases of so-called agenesia of the corpus callosum, we have to do merely with an absence of the callosal commissure proper.

2. In a considerable number of cases, foetal hydrocephalus is the underlying cause of this anomaly. This lesion may act either by destroying a large part of the periventricular callosal layer, or by determining ventricular symphysis which then interferes mechanically with the development of the callosal commissure.

3. The occipito-frontal fasciculus simply represents, as Sachs originally maintained, a heterotopy of the corpus callosum. It does not exist in the normal cerebrum.

4. The fornix is formed not only by fibres derived from the gyrus hippocampi but also by fibres which originate in the gyrus fornicatus and reach it by traversing the corpus callosum.

5. The internal sagittal layer of the fronto-parietal lobe, the reticular zone of Sachs, represents the corona radiata of the gyrus fornicatus or first limbic convolution.

6. The anterior commissure probably enters into the constitution of the temporal segment of the tapetum. Aside from this possible element, the tapetum is formed exclusively by the fibres of the corpus callosum.

Editorial

> Well, at that time she had not done very well; her husband used to drink, and died of spontaneous imbustion; but she had been a fine woman in her time, truth to tell, not that it did her any good, though she had friends among the lawyers. So, being hard up, she became a monthly nurse, and lived in the Rue Barre-du-Bec. Well, she went out to nurse an old gentleman that had a disease of the lurinary guts (saving your presence); they used to tap him like an artesian well, and he needed such care that she used to sleep on a truckle-bed in the same room with him. You would hardly believe such a thing!—"Men respect nothing," you'll tell me, "so selfish as they are." Well, she used to talk with him, you understand; she never left him, she amused him, she told him stories, she drew him on to talk (just as we are chatting away together now, you and I, eh?), and she found out that his nephews—the old gentleman had nephews—that his nephews were wretches; they had worried him, and final end of it, they had brought on this illness. Well, my dear sir, she saved his life, he married her, and they have a fine child; Ma'am Bordevin, the butcher's wife in the Rue Charlot, a relative of hers, stood godmother. There is luck for you!
>
> HONORÉ DE BALZAC
>
> *Cousin Pons.*

✠ ✠ ✠

The Albany Guild

The report of The Albany Guild for the Care of the Sick for the year ending January 31, 1911, is of more than ordinary interest, and this statement conveys no small truth, for the reports of this organization are always of surpassing value. The Guild represents Albany philanthropy in so active and intelligent manner, as to place the city in the van in this particular regard. The Guild employs nurses who visit the poor and those of moderate circumstances who are unable to employ trained nurses. They thus provide care in sickness which might otherwise end in disaster and death, and by their efforts these fatal results are often averted. They ascertain the wants and hardships of the more unfortunate, and armed with this knowledge,

are enabled to render the assistance so often the most effective prophylaxis.

The present year marks an epoch in the history of the Guild. Mrs. W. W. Byington, an active member of the original "Fruit and Flower Mission," from which the Guild was evolved, and President of the Guild since its incorporation, retires from active service. A proper acknowledgment of Mrs. Byington's administration would lie in the simple statement that to her intelligent understanding of the purpose of the Guild is due not only its successful work, but its existence. For thirty years she has kept constantly in mind the single plan of alleviating and preventing the distresses incident upon poverty, and has directed the efforts of the numerous departments of the organization. The Guild is, in fact, a confederation of different committees, each with its definite purpose, and the adjustment of their duties, and effective co-operation has been not the least of the difficult problems requiring the tact and administrative perception of the executive officer of them all. So great has been the burden and so many the details devolving upon Mrs. Byington that her retirement may well have proved a crisis in the affairs of the Guild. Anticipating the possible disorganization arising from too great dependence upon one individual, Mrs. Byington provided for the appointment of a special committee to inquire into and correlate all of the activities of the Guild. It was found that the work had outgrown the original organization and a superintendent has been appointed from the staff of nurses, to reside at the Guild house, and to concentrate all of the committee work in one responsible executive. Regret upon Mrs. Byington's retirement is softened by the election of Mrs. Jane Knowles Cowdery to the presidency. Mrs. Cowdery has been an energetic manager and assumes the direction with experience, energy and humane spirit which assure permanency of the charitable purpose of the Guild.

The physicians of Albany owe a special debt of gratitude to this most helpful organization of ladies. Without it little of the scientific progress of the last twenty years could have been made available in the general practice of medicine.

Public Health

Edited by Joseph D. Craig, M. D.

Department of Health — Albany, N. Y.

Abstract of Vital Statistics, July, 1911.

Deaths.

Consumption	21
Typhoid fever	2
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	1
Grippe	0
Diarrheal diseases	24
Pneumonia	0
Broncho-pneumonia	1
Bright's disease	19
Apoplexy	13
Cancer	12
Accidents and violence	14
Deaths over 70 years	36
Deaths under 1 year	43
Total deaths	207
Death rate	24.36
Death rate less non-residents	20.12

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	11	16
Albany Orphan Asylum	0	0
Child's Hospital	0	0
County House	1	1
Homeopathic Hospital	5	2
Hospital for Incurables	2	0
Little Sisters of the Poor	0	0
Home for the Aged	1	0
House of Shelter	2	0
Public places	4	1
Penitentiary	1	0
St. Frances de Sayles Orphan Asylum	2	0
St. Margaret's House	2	2
St. Peter's Hospital	10	2
Austin Maternity Hospital	3	5
Albany Hospital, Tuberculosis Pavilion	3	1
Confederation of Labor	0	0
Totals	47	30
Births	104	
Still births	10	

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	2
Scarlet fever	3
Diphtheria and croup	13
Chickenpox	2
Measles	2
Whooping-cough	0
Consumption	29
Infantile paralysis	1
Total	52

Contagious Disease in Relation to Public Schools.

None reported.

Number of days quarantine for diphtheria:

Longest..... 32 Shortest..... 9 Average..... 18 5/11

Number of days quarantine for scarlet fever:

Longest..... 36 Shortest..... 18 Average..... 29 2/5

Fumigations:

Houses..... 34 Rooms..... 159

Cases of diphtheria reported	13
Cases of diphtheria in which antitoxin was used	13
Deaths after use of antitoxin	1

Bender Laboratory Report on Tuberculosis.

Positive	27
Negative	9
Failed	0
Total	36

Tuberculosis.

Living cases on record July 1, 1911		359
Reported during July:		
By telephone	0	
By Bender	0	
By card	20	
		20
Dead cases by certificate		8
		28
		387

Dead cases previously reported	13	
Dead cases not previously reported	8	
Duplicates	0	
Recovered	0	
Removed	3	
Unaccounted for	0	
		24
Living cases on record August 1, 1911		363
Total tuberculosis death certificates filed during July, 1911		21
Out of town cases dying in Albany:		
City at large	1	
Albany Hospital	1	
		2
Net city tuberculosis deaths		19

Bureau of Pathology.

Bender Laboratory Report on Diphtheria.

Initial positive	11
Initial negative	26
Release positive	15
Release negative	66
Failed	23
Total	141
Test of sputum for tuberculosis:	
Initial positive	29
Initial negative	13
Failed	11
Total	53

Bureau of Markets and Milk.

Market reinspections	119
Public market inspections	22
Fish market inspections	4
Pork packing houses inspected	2
Fish peddler inspections	2
Rendering establishment inspections	3
Slaughter house inspections	3
Hide house inspections	4
Milk wagons in clean condition	22
Butter fats below 3%	2
Butter fats from 3 to 3.5%	7
Butter fats from 3.5 to 4%	13

Butter fats over 4%	0
Solids under 12%	3
Solids from 12 to 12.5%	4
Solids from 12.5 to 13%	6
Solids over 13%	9

MISCELLANEOUS.

Mercantile certificates issued to children	9
Factory certificates issued to children	16
Children's birth records on file	25
Number of written complaints of nuisances	86
Privy vaults	9
Closets	17
Plumbing	13
Other miscellaneous complaints	47
Cases assigned to health physicians	85
Calls made	169

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JUNE, 1911.—Number of new cases, 176; classified as follows: Dispensary patients receiving home care, 35; district cases reported by health physicians, 4; charity cases reported by other physicians, 22; moderate income patients, 87; metropolitan patients, 25; old cases still under treatment, 90; total number of cases under nursing care during month, 266. Classification of diseases for the new cases: Medical, 77; surgical, 6; gynecological, 0; obstetrical under professional care—mothers, 47; infants, 44. Disposition: Removed to hospitals, 3; deaths, 9; discharged cured, 145; discharged improved, 1; number of patients still remaining under care, 108.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 0; number of students in attendance, 1; number of nurses in attendance, 2; number of patients carried over from last month, 0; number of new patients during month, 1; number of patients discharged, 0; number of visits by head obstetrician, 0; number of visits by the attending obstetrician, 0; number of visits by students, 3; number of visits by nurses, 3; total number of visits for this department, 6.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,115; for professional supervision of convalescents, 325; total number of visits, 1,440; cases reported to the Guild by health physicians and four other physicians 39; graduate nurses 8, pupil nurses, 12 on duty.

Dispensary Report.—Number of clinics held, 86; number of new patients, 116; number of old patients, 360; total number of patients treated during month, 476. Classification of clinics held: Surgical, 12; nose and throat, 7; eye and ear, 11; skin and genito-urinary, 8; medical, 12; lung, 10; dental, 2; nervous, 3; stomach, 0; children, 12; gynecological, 9.

LYDIA E. BETZ, *Superintendent.*

ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING.—STATISTICS FOR JULY, 1911.—Number of new cases, 181; classified as follows: Dispensary patients receiving home care, 37; district cases reported by health physicians, 5; charity cases reported by other physicians, 54; moderate income patients, 74; metropolitan patients, 11; old cases still under treatment, 90; total number of cases under nursing care during month, 271. Classification of diseases for the new cases: Medical, 84; surgical, 7; gynecological, 0; obstetrical under professional care—mothers, 43; infants, 44; infectious diseases in the medical list, 1. Disposition: Removed to hospitals, 6; deaths, 10; discharged cured, 142; number of patients still remaining under care, 113.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; number of students in attendance, 1; number of nurses in attendance, 1; number of patients carried over from last month, 1; number of new patients during month, 1; number of patients discharged, 1; number of visits by head obstetrician, 0; number of visits by the attending obstetrician, 0; number of visits by students, 8; number of visits by nurses, 10; total number of visits for this department, 18.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,356; for professional supervision of convalescents, 402; total number of visits, 1,758; cases reported to the Guild by 5 health physicians and 32 other physicians; graduate nurses 6, and pupil nurses 4 on duty.

Dispensary Report.—Number of clinics held, 68; number of new patients, 94; number of old patients, 366; total number of patients treated during month, 460. Classification of clinics held: Surgical, 12; nose and throat, 5; eye and ear, 9; skin and genito-urinary, 7; medical, 10; lung, 3; dental, 0; nervous, 3; stomach, 0; children, 12; gynecological, 7.

LYDIA E. BETZ, *Superintendent.*

In Memoriam

EDWARD B. COBURN, M. D.

Dr. EDWARD B. COBURN, of the Class of 1890 of the Albany Medical College, died at his home in New York City on Thursday, August 10th, 1911. Dr. Coburn was forty-three years of age, and was born in Troy, N. Y. He graduated from Union College, and after obtaining his degree in medicine took up the study of disease of the eye, ear, nose and throat in New York City, Paris, Vienna, Berlin and London. In 1892 he began practice

in these specialties in New York City. He had been clinical assistant at the Central London Throat and Ear Hospital, the Royal London Ophthalmic Hospital, the Vanderbilt Clinic of the College of Physicians and Surgeons, New York, the New York Polyclinic and the Manhattan Eye and Ear Hospital. He was also an assistant surgeon at the New York Ophthalmic and Aural Institute, and at the time of his death was attending surgeon at the Cornell University Medical College Dispensary, and also was surgeon and pathologist at the New Amsterdam Eye and Ear Hospital. He was a member of the New York County Medical Society, and a fellow of the New York Academy of Medicine. He was also a member of the Sons of the American Revolution and of the Society of Founders and Patriots of America. He was a collaborator to "La Revue Generale d'Ophthalmologie," and he was a liberal contributor of various works and papers on the subject of his medical investigations.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

Hookworm Disease—Etiology, Pathology, Diagnosis, Prognosis, Prophylaxis, and Treatment. By GEORGE DOCK, A. M., M. D., Professor of the Theory and Practice of Medicine, Medical Department Tulane University of Louisiana, New Orleans, and CHARLES C. BASS, M. D., Instructor of Clinical Microscopy and Clinical Medicine, Medical Department Tulane University of Louisiana, New Orleans. 250 pages, royal octavo. Fifty illustrations, including one colored plate. Price, $2.50. C. V. Mosby Company, St. Louis, Publishers.

It was the reviewer's privilege to be associated with Dr. Stiles as a student at the time the discovery was made of the existence of hookworm in the United States and when he determined that the infections were with a previously unknown species. He was thus able to see some of the early specimens and to observe some of the earliest cases. It is, therefore, with especial pleasure that he has reviewed this monograph of Dock and Bass, which so admirably treats of the whole subject and gives particularly the American experience with the disease.

Living as the authors do, or did, as one has since removed, in a locality where cases are seen almost daily in practice and consultation, and in a general region heavily infested with the parasites, they are admirably fitted for the task of writing this monograph upon a disease which, as they state in their preface, is hardly surpassed in the strangeness of its history, the importance of its ravages or the theoretic ease of its extinction. It has probably existed from a remote past in tropical countries and has been recognized in Europe and Africa for many decades as one of the most important medical and economical problems. Immense labor and expense have been devoted to its repression, and it has been the

subject of many important investigations in diagnosis, biology and treatment. Its recognition in America has been but recent; it is for us a new problem, but one of immense importance and one that is engaging the best efforts of sanitarians, physicians, philanthropists and employers of labor throughout the South.

This book is written primarily for physicians, but in such simple language that almost any layman can understand the greatest part of it, and it contains information of the greatest value to all interested in the subject. It is almost as interesting as a novel and retains its interest to the end.

The first chapter contains a general discussion of the earliest references to what was in all probability this disease, up to and including the discovery of the worms in man by Dubini in Milan in 1838. Then follows an account of the modern history and epidemiology of the infection in Europe and America. Beyond the discovery of the worms themselves, the most important discovery in connection with the disease was that by Loose in Egypt in 1898 of the penetration of the skin by the larvae, now known as the most important source of infection.

Chapter two is devoted to a discussion of the distribution and economic importance of the disease. As far as America is concerned this is well shown by the statement that in Virginia 80% of the millhands are infected, in Alabama 20% of the total white population, in Mississippi 50%, in Porto Rico 90%, and for the whole South 12.67% of the employes in the cotton mills.

Chapter three contains a discussion of the zoologic features of the parasites with a section upon the nomenclature of this and allied species. This is followed by a full description of the anatomy and developmental history of Ankylostoma Duodenale and of Necator Americanus, the European and American species respectively. The wide distribution of hookworms in nature is well shown by the list of mammals besides man which are subject to infection by various species: dogs, cats, sheep, cattle, elephants, badgers, foxes, seals and possibly some species of monkeys. The parasites infecting seals are probably the cause of a mortality of about 17% among sucklings on the Pribiloff Islands. (Loose.)

In the chapter devoted to Modes of Infection is pointed out the great importance of ground itch, or the lesions caused by the passage of the embryos through the skin, and the relatively slight importance of drinking water and contaminated food as a source of infection. A full description of the experiments of Loose, and of Bentley and C. A. Smith in this country, the latter working with Necator Americanus, to prove this point are given. The importance of the proper disposition of human excrement, which in heavy infections of the host is estimated to contain 4,000,000 to 5,000,000 eggs per stool, is dwelt upon.

The remaining chapters of the book are devoted to the disease itself, as follows: Pathological Anatomy and Pathology, Symptomatology, Diagnosis, Prognosis, Prophylaxis, and Treatment.

The author's conclusions as to the causation of the anaemia are as follows: "1. Hookworms cause loss of blood by sucking and subse-

quent hemorrhage; this alone produces anaemia in many cases. 2. Infection of the bites is an important part of the pathology of hookworm disease, and may be the most important, either from the number of the lesions or the severity of the subsequent bacterial infection. 3. Other toxic processes may play a part, but at present they have not yet been proved to exist." The symptoms depend largely upon the severity of the infection, but not exclusively so. Some cases show very marked symptoms though only a very few worms are present. The authors feel that children are less susceptible to the effects of a few worms than are adults and that in any case they recover more quickly. Besides the division of the cases into acute and chronic, the authors arbitrarily classify cases as *Very mild,* with a haemoglobin percentage above 80, *Mild* if it is 80 to 60, *Severe* if it is 60 to 30, and *Very Severe* if it is below 30. In these cases it is sometimes as low as 8 or 10%. With these very severe cases albuminuria is usually associated. Since the discovery of the main source of infection, "dirt-eating" and other forms of parorexia are considered as symptoms rather than, as formerly, sources of possible infection. The presence of hookworm "carriers" must be remembered and assigned their proper place in the classification of cases and in the methods of spread of the disease.

Diagnosis. "An absolutely certain diagnosis of hookworm infection cannot be made without finding the eggs or worms in the feces. It is possible, however, to diagnose it symptomatically with reasonable certainty in most cases showing well-marked symptoms, provided this disease be kept in mind. We cannot emphasize too strongly the importance of the history of 'ground-itch' within the preceding years. In all patients from warm climates presenting anaemia * * * without obvious cause this should be inquired for. When it is obtained" (or in the family or neighbors), "nothing short of thorough examination of the feces for eggs permits the elimination of hookworm from the diagnosis." There is a full discussion of methods of examination of the stools for eggs, which in light infections is often not an easy matter, and the methods of concentration of Pepper and Bass are described. There is also a discussion of the relative value of other methods of diagnosis, such as the presence of eosinophilia.

Prophylaxis: "Hookworm disease is theoretically one of the easiest to prevent. Practically it is one of the most difficult to prevent or eradicate on account of its wide extent, its intensity in favorable localities, the enormous reproductive power of the adult worm, the rapid development of the ova to the infecting stage, and the commonest method until recently unsuspected, of infection. Another cause of difficulty in prevention depends upon the fact that the sources of infection, their number, and danger result directly from careless or filthy habits. The problem of prophylaxis involves the following essential elements: 1. Stopping the danger of infection by exterminating the mature worms in the bodies of human beings in order to check the supply of eggs at the source. 2. Preventing the growth and existence of larvae in the places where they

develop. 3. Preventing infections by larvae that have developed, notwithstanding the efforts mentioned under 1 and 2."

Treatment. There is a full discussion of the merits of the different drugs used to expel the worms, but the authors state their decided preference for thymol and give full directions as to the best method of giving it. The general results of treatment are discussed and emphasis is laid upon the fact that other diseases which the patient may have, but which have been overshadowed by the hookworm infection, must not be lost sight of.

The book is very well illustrated in those chapters susceptible of illustration. The type is large and clear, and the book as a whole is well gotten up. The index is full. Many references are given in the text to the work of foreign and American investigators, but almost without reference to the journals where their articles can be found. This complete lack of a bibliography is our one great criticism of the book which otherwise is admirable and of immense value to anyone interested in any of the many points connected with the disease and its causative factor.

C. K. W., JR.

Inebriety: A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment, and the Medico-legal Relations. By T. D. CROTHERS, M. D., Editor of the Journal of Inebriety, Author of Morphinism and Narcomania, Drug Habits and their Treatment, etc., Recording Secretary of the American Medical Society for the Study of Alcohol and Other Narcotics, Member of the American Medical Association, the British Medical Association, Honorable Member of the British Society for the Study of Inebriety, etc., etc. 1911: Harvey Publishing Company, Cincinnati, Ohio.

Dr. Crothers graduated from the Albany Medical College in 1865, and from 1875 to 1878 was an assistant to Dr. Joseph Edward Turner at the New York State Inebriate Asylum at Binghamton. Dr. Turner was the pioneer in this line of practice. He canvassed personally physicians and other philanthropists and secured the means for launching his ill-fated venture. Dr. Crothers attributes the failure of the Binghamton institution to the "dogmatism and intense ignorance of many good men of the day." "Notwithstanding the confusing efforts of the various managers to please the public and the inmates of the institution, they unconsciously exemplified and worked out many of the facts which are now being recognized as the most advanced principles of treatment." In spite of this discouraging beginning Dr. Crothers was sufficiently impressed to continue work upon the lines suggested by Dr. Turner and has given his energy and his professional life to the study of inebriety as a disease. He has had to face the inherent difficulties, for in the rapid restoration to a normal condition of alcoholics when the poison is inhibited, rests a condition which statutory regulation has not been able to meet. A man may become irresponsible and subject to legal control

when under the influence of alcohol, but upon his recovery, there is little opportunity to detain him in custody on the supposition of relapse. The courts are reluctant and refuse to deprive the normal individual in anticipation of a possible or probable offense in the future. It is difficult to establish the presence of disease in an individual who is victim of a habit by which he is periodically incapacitated. In the inveterate cases there exists an undoubted susceptibility to temptation, which may be regarded as a form or manifestation of degeneracy or inherent constitutional defect. Signs are now given that public sentiment is aroused as to the menace of this group of cases, and there are indications of the establishment by the state of so-called "farm colonies" for the proper custody of tramps and vagabonds. These patients represent a form of feeble-mindedness, and if they are segregated at an early age from the temptations of life, and placed in an agreeable environment, suited to their individual capacity, they may lead a comfortable existence, and society may be spared much of the distress arising from their misdemeanors.

However this may be, Dr. Crothers has stoutly maintained for many years the thesis that inebriety is disease, and he has been honored above any other American physician in this department of practice. As a result of his long and patient study, he has formulated his ideas in a volume of four hundred pages, in which the history of alcoholism has been traced from ancient civilizations, its mental and physical results are described, and treatment outlined. Little is left to be said, and his book is a full and complete disquisition of the topic.

Vaginal Celiotomy. By S. Wyllis Bandler, M. D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages, with 148 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5 net; Half Morocco, $6.50 net.

The author of this work has been one of the firm advocates of the vaginal path in the correction of many pelvic gynecological diseases and this work is a plea for the more general adoption of this route in the correction of cystocele, descenus uteri, prolapse of the uterus, for the performance of simple hysterectomy and for the treatment of certain diseases of the adnexa. In treating the subject the author has discussed the uses and limitations of the anterior and posterior vaginal routes and the technique of the various operations which may be performed by each route or by a combination of the two. The technique of the various operations is well described and each step illustrated by excellent drawings. The work should give a stimulus to the employment of the vaginal path, which, as the author says in the preface, has a value so great in many instances that the abdominal route should scarcely have any consideration. The book contains 450 pages and is well indexed. G. E. B.

A Treatise on Diagnostic Methods of Examination. By Prof. Dr. HERMANN SAHLI, Director of the Medical Clinic, University of Bern. Edited, with additions, by NATHANIEL BOWDITCH POTTER, M. D., Assistant Professor of Clinical Medicine, College of Physicians and Surgeons, New York. Octavo of 1229 pages, containing 472 illustrations. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $6.50 net; Half Morocco, $8 net.

To those who are not familiar with previous editions of Sahli's work on Diagnostic Methods it is almost impossible to give any adequate idea of the wide scope and unusual detail of these methods. To those who are familiar with former editions, such consideration would be unnecessary.

Sahli describes and discusses the usual and the newer methods of clinical physical examinations, including the history, general condition, development, nutrition, skin changes, temperature, character of respiration, voice, cough, inspection, palpation, ausculation and percussion. The well-tried as well as the newer methods of so-called laboratory examination of stomach contents, feces, urine, sputum and blood are given in great detail and critically discussed. In special chapters, various modes of local examination of the mouth, pharynx, oesophagus, larynx, trachea, bronchi, nose, eye and the nervous system are set forth. The more recent diagnosis by means of the sphymograph and orthodiagraph is considered. Owing to the addition of a large number of newer methods in the various branches of medicine this edition of the book is enlarged by about 300 pages and the number of text figures and plates have also been increased.

In considering Röntgen ray diagnosis, Sahli believes we must use it merely as one link in the chain of evidence necessary in diagnosis, and not try to make it a short cut and thus neglect other proved methods. Sahli deprecates the modern tendency to publish original work almost exclusively in journals, and to consider text-books as mere compilations. He has reserved much of his original work for this volume. Indeed, this edition of Dr. Sahli's book is a compendium of all varieties of diagnostic methods, an invaluable book of reference for the laboratory worker or the practicing physician, for it has aimed to pay equal attention to all departments of internal medicine. T. O.

One Thousand Surgical Suggestions. Practical Brevities in Diagnosis and Treatment. By WALTER M. BRICKNER, B. S., M. D., of New York. 4th American edition. New York. Surgical Publishing Co., 1911.

This compilation of surgical axioms seems to have met with popular approval. In the present edition, which is the fourth since 1906, the number of suggestions have quadrupled. The practical "Suggestions" have been revised, some altered, some rearranged and a few omitted. Three hundred have been added in this edition, many of them relating to recent surgical innovations. G. E. B.

ALBANY
MEDICAL ANNALS

Original Communications

THE DIAGNOSIS OF KIDNEY AND URETERAL CALCULI.

Read before the Medical Society of the County of Albany, February 28, 1911.

By DANIEL N. EISENDRATH, M. D.,

Chicago,

Professor of Surgery, University of Illinois (Med. Dept.): Surgeon to Michael Reese and Cook County Hospitals, Chicago.

The progress made during the past ten years in the surgery of the urinary organs has been relatively more rapid than that of any other especial field of surgery. This is in great measure due to the development of our X-ray technique, and to the ureteral catheter and the cystoscope. In former times we depended almost entirely upon the clinical history and the accompanying findings for our diagnosis. As a result many cases were operated for stone, with negative results, and, on the other hand, many a stone was overlooked until irreparable damage to the kidney had occurred.

I propose, first, to consider our present methods of clinical diagnosis of stone in the kidney and ureter, and then to briefly review the influence of the systematic use of the X-ray upon our diagnosis and treatment.

Diagnosis. As experience grows, we are forced to the conclusion that there are no pathognomonic symptoms of stone in the kidney or ureter. The recognition of their presence rests at the present time upon a careful analysis of the clinical history and findings, taken in conjunction with the study of radiographs of the region. If any portion of radiography requires the possession of a person especially skilled in this field of work, this may be said with particular emphasis of radiography of the urinary organs. Even at the present time many

cases are operated upon and no stones found, when the evidence as obtained by the X-ray was insufficient to justify operation. It is not only in the taking of pictures that especial skill is requisite, but the correct interpretation of the pictures often requires considerable experience, and many sources of error can be rapidly eliminated by one accustomed to look at such pictures.

Diagnosis from History and Findings. As was just stated, a carefully taken history and thorough examination of the patient, including the urine, etc., is just as indispensable to-day as it ever was. We have learned, however, that the former opinion that a history of renal colic or of hematuria was typical of stone in the kidney or ureter no longer holds true. From a study of a large number of cases I have attempted to establish certain groups or clinical pictures which one encounters in practice. These are as follows:

1. Those with symptoms of typical renal colic.
2. Those with dull lumbar or abdominal ache.
3. Those in which the sudden onset of anuria is the first symptom.
4. Those in which a persistent or intermittent fever first attracts attention to the urinary organs as the source of such fever.
5. Those in which a persistent pyuria or hematuria with or without pain leads to a careful examination of the kidney and ureter.
6. Those in which the symptoms of renal tuberculosis or of neoplasm predominate, the stone formation usually being a secondary factor.
7. Latent cases, in which stones remain throughout life in the kidney or ureter without causing symptoms.

The last two classes are so rare that I will omit their consideration in this paper.

To return to the other five classes, the most frequent cases are those belonging to the first group.

Class I. Typical renal colic cases. In these cases there is more or less marked colicky pain of the kind commonly described as renal. In former times such a pain of varying severity arising in the kidney region and radiating either to the epigastrium, or along the ureter into the testes, bladder, thighs, etc., was generally accepted as always signifying the presence of stone. We now know that renal colics may be due to a number of condi-

tions besides stone, viz., (a) to a nephritis, either unilateral or bilateral; (b) to the kinking of a ureter in floating kidney, or to the crossing of the ureter by an anomalous artery to the lower pole, both of which conditions cause a transitory hydronephrosis, with resulting colicky pains; (c) to the passage of caseous masses from tuberculous renal foci or the passage of worm-like coagula following hemorrhages from a renal neoplasm; (d) ureteral crises in tabes.

Differentiation of Renal Colic Due to Stone from Other Renal Conditions Causing Colic. In movable kidney, the differential diagnosis is very difficult during the attack unless a tumor due to the temporary obstruction of the urine is found during the attack, and is absent in the interval (intermittent hydronephrosis). There is usually scanty urine during the polyuria after the attack.

Visceral ureteral crises due to tabes must always be thought of in middle-aged patients. The negative findings and the discovery of symptoms of tabes will readily exclude the condition.

Colics due to nephritis are accompanied by other urinary and general evidences of the condition. Colics due to tumors of the kidney are accompanied by the passage of blood in much larger quantity than in the case of renal calculi.

In addition to these four causes of typical renal colic I wish to add two others. In some persons typical renal colic pains accompany the expulsion of large quantities of certain substances eliminated by the kidneys, especially uric acid, oxalate of lime and cystin. The pain, while not very severe, is often sufficient to cause the patient to take to bed. In the other class of cases there is a close anatomical relation between the appendix vermiformis and the ureter. During an attack of appendicitis the adjacent inflammatory swelling will often spread to the ureter or cause a mechanical obstruction, with resultant colicky pain. In the last mentioned cases there is usually blood present microscopically in the urine during the attack of appendicitis and for a short time afterward. Hunner and Seelig have called attention to such cases of appendicitis in our American literature, and in French books one often finds them referred to as "appendicito hematurique." Attention may be called at this time to the fact that ureteral calculi and appendicitis may co-

exist, and also that many an appendix has been removed and a ureteral calculus overlooked.

In cases of renal calculus with typical renal colic symptoms, the latter are usually preceded and accompanied by blood in the urine (as a rule, only in microscopic quantity). The kidney and ureter are usually tender during the attack and the colics may be first on one side and then on the other, less often on both sides.

Two facts must not be forgotten in this connection; first, that a stone may be present in the left kidney and the pain be referred to the opposite side, as the result of the so-called renorenal reflex, and, secondly, that calculi are present on both sides in one combination or another in about twenty per cent of the cases. I will refer to this again under X-ray diagnosis.

In ureteral calculi, the pain is usually lower down than in renal calculi, is apt to be more accurately localized, and is often referred to the front of the abdomen or low down in the pelvis.

Space will not permit of a detailed differentiation of all of the extrarenal and ureteral lesions which can cause pain simulating colic due to stone. The more important of these conditions are appendicitis and gall-stones.

In appendicitis there is more localized rigidity, and but little radiation of pain, and the pain is usually localized over McBurney's point, and is not, as a rule, quite so severe. The occurrence of an appendiceal hematuria was referred to above, hence in every doubtful case of appendicitis it is best to take a skiagraph. In one of my cases the X-ray was negative at the time of operation for a typical acute appendicitis, but the patient passed a small calculus later, the two conditions having coexisted.

In gall-stones, the location of the pain in the right hypochondrium and its radiation to the shoulders is quite characteristic, but in cases where the gall-bladder lies lower than normal the differentiation without the use of the X-ray may be difficult. Fortunately only about ten per cent of gall-stones show a shadow, and even this when present is not located where a renal calculus of its size would be, and such a shadow could be easily differentiated as not of renal or ureteral origin by the use of the wire bougie inserted into the ureter.

In some cases of perinephritis or periureteritis due to stone,

a differentiation without an X-ray is often impossible before operation.

In cases with the history of typical renal colics and accompanying hematuria the diagnosis, even without the X-ray, will usually present no difficulties if one will tak the various conditions to be differentiated into consideration. I will refer later to the position which the X-ray has assumed in confirming such a diagnosis.

Class 2. Those with dull lumbar or abdominal ache. It is surprising in looking over one's records of kidney cases to note the relatively large number in which the principal symptom was, in the case of kidney stone, an aching pain, varying in intensity from a dull ache to a rather sharply localized pain. In the case of ureteral stones the patient is often able to fairly accurately localize the position of such a stone by the position of the pain. In some of my cases this dull aching pain has been accompanied or preceded by recurrent attacks of a sharper colicky pain, resembling the typical renal colic. I cannot emphasize too strongly the necessity of examining thoroughly every patient who gives a history of such repeated attacks of dull aching pain as to the possible presence of stones in the kidney or ureter.

Class 3. Those in which the sudden onset of anuria is the first symptom. The most frequent cause of calculous anuria is the occlusion of one or both ureters by a calculus. It is not necessary that the escape of urine from both kidneys should be interfered with in order to produce an anuria. Not infrequently we encounter cases in which there is only a stone blocking one ureter, but the secretory function of the opposite kidney is temporarily suppressed as the result, in all probability, of a reflex inhibition.

At least it seems to me to be the best explanation of the occurrence of anuria in these cases. Again, anuria may occur, as it did in one of my cases, when the kidney was blocked by the presence of calculi in the ureter and the opposite kidney was in a condition of congenital underdevelopment or hypoplasia. These cases of calculous anuria are often mistaken for suppression of urine due to nephritis. There is, however, seldom an accompanying coma at first, or the history of convulsions, nor does the urine show the changes typical of those cases of

nephritis which terminate in suppression of urine and uremic coma.

Anuria should always be looked upon with suspicion, and if the urine shows no evidences of casts and albumin one should always think of the possibility of the anuria being due to one of the causes of calculous anuria just outlined.

If the diagnosis is made of calculous anuria, the patient can often be saved by prompt operative interference. It is not within the province of this paper to enter into the discussion as to the method of operation in such cases.

Class 4. Those in which persistent or intermittent fever of renal origin is the most prominent symptom. These are by far the most puzzling cases, and I can best illustrate my point by describing a typical case of this kind.

J. L. K., aged 50, had been operated in an adjoining State about one year before consulting me, for a gangrenous appendicitis. He was referred to me on account of a post-operative hernia. On taking his temperature it was found to be 102 degrees. Observation during several days showed persistent fever, varying from 102 degrees to 103 degrees. A careful examination failed to yield any evidence of subphrenic abscess or any cause of suppuration in any way related to the previous appendicitis. His urine contained a considerable amount of pus. In taking the history of the patient the fact was elicited that a calculus had been passed by him about fifteen years before. The X-ray examination revealed the presence of two calculi, one located at the upper portion of the ureter, and one in one of the calyces of the left kidney. The blocking of this left ureter by a calculus located in its upper portion resulted in retention of pus within the kidney and resulting temperature.

This subject of obscure fever of renal origin is one to which I do not think sufficient attention has been paid, up to the present time.

The writer has seen a relatively large number of cases of infection of the kidney, both with and without calculi, in which there were absolutely no localizing symptoms pointing to the kidney. It was only by a careful process of exclusion that a diagnosis of fever of renal origin was made. Many cases of this kind have been and are still being treated as typhoid, malaria, cryptogenetic septicemia and for other similar conditions, when in reality the kidneys are the source of the fever.

I have now made it a rule in every case of this kind to consider the kidney as a possible source and to have radiographs made.

In these cases of fever of renal origin the temperature is either continuous or not infrequently there are repeated chills followed by high fever, to 106 degrees, and a subsequent sweat. There may or may not be a history of colics or of the persistent aching described above. Examination of the urine will usually show the presence of pus in larger or smaller quantity. The fever predominates the clinical picture and this is especially true in those patients who either give a negative or indefinite history as to colics.

Class 6. Those in which hematuria or pyuria is the most prominent symptom. I can again best illustrate my point by giving the outlines of a typical case of this kind.

S. H., aged 49. Personal history negative. Had been under the observation of the writer for a number of years on account of persistent hematuria. This varied in intensity, but was never so severe as to lead to the diagnosis of neoplasm, essential hematuria or angioma of a papilla of the kidney. Cystoscopic examination of the ureter and bladder revealed no local cause for the bleeding. Repeated X-ray examinations were negative. There was no pain present at any time up to three years ago, that is, seven years after the onset of the hematuria. I might say that the hematuria was accompanied by the presence of granular casts and of some albumin. He was seen by a number of excellent medical men, who thought the hematuria could be best explained on the basis that it was due to a chronic nephritis of an interstitial type. About three years ago he had a typical right-sided renal colic followed by the passage of a pure uric acid calculus, so that my previous suspicion of nephrolithiasis was confirmed. The further course of the case was the following: Shortly afterwards he had a left-sided attack of colic without the passage of any calculus. During a year's trip around the world he had several attacks, which resembled somewhat a calculous anuria. On his return to the United States I found that his urine contained a large amount of pus. Cystoscopic examination showed that this came chiefly from the left ureter. The X-ray examination at this time revealed a large branched calculus occupying almost the entire structure of the left kidney, which was removed.

This case illustrates that one should always be suspicious in a case of hematuria (which one has proven to be of renal origin by cystoscopic examination) of one of four things: Either stone, neoplasm, tuberculosis or nephritis and angioma of a papilla, and not neglect early X-ray examination.

The case just cited shows, however, the difficulty of securing shadows before the uric acid stones have become of the mixed phosphate and carbonate type. The latter change results from

infection, usually of the colon bacillus variety. A persistent pyuria of renal origin should always be suspicious of one of three conditions, namely, of a pyelitis or pyonephrosis; secondly, of tuberculosis, and, finally, of an infected calculous kidney.

Value of the X-ray. In regard to the value of the X-ray, we can say that, although the majority of surgeons are as yet unwilling to accept the dictum of Kümmell, "no shadow, no stone," it must be acknowledged that this is true in about ninety-nine per cent of the cases. In a recent report of 245 operations for renal and ureteral calculi, Israel[1] reported only three cases in which there had been a positive shadow, but no stone found.

A positive skiagraph taken by one familiar with the special technique requisite to the taking of such pictures is at the present time the only absolute test of the presence of a renal or ureteral calculus. Few surgeons would be willing to undertake an operation upon the strength of a negative skiagraph.

I will briefly[2] review some of the rules to be observed in order to obtain trustworthy pictures. The patient must be thoroughly purged and allowed to drink only clear fluids for twelve hours before taking a picture. The latter is best made with the compression diaphragm of Albers-Schoenberg. Two views should be taken, the first to include both kidneys and the upper part of the ureters, and the second to include the lower portion of the ureters and the bladder. It is absolutely necessary to include both kidneys and both ureters in the pictures, because the calculi are more frequently present on both sides than was formerly suspected.

A skiagraph, to be considered perfect, must show the last two ribs, the transverse processes of the last dorsal and all of the lumbar vertebrae and the outlines of the psoas muscle.

Skiagraphy shows us whether (a) calculi are present on one or both sides; (b) the number and shape of the calculi; (c) their location (whether in the parenchyma or in pyo- or hydronephrotic cavities, or in the ureter, or in the bladder).

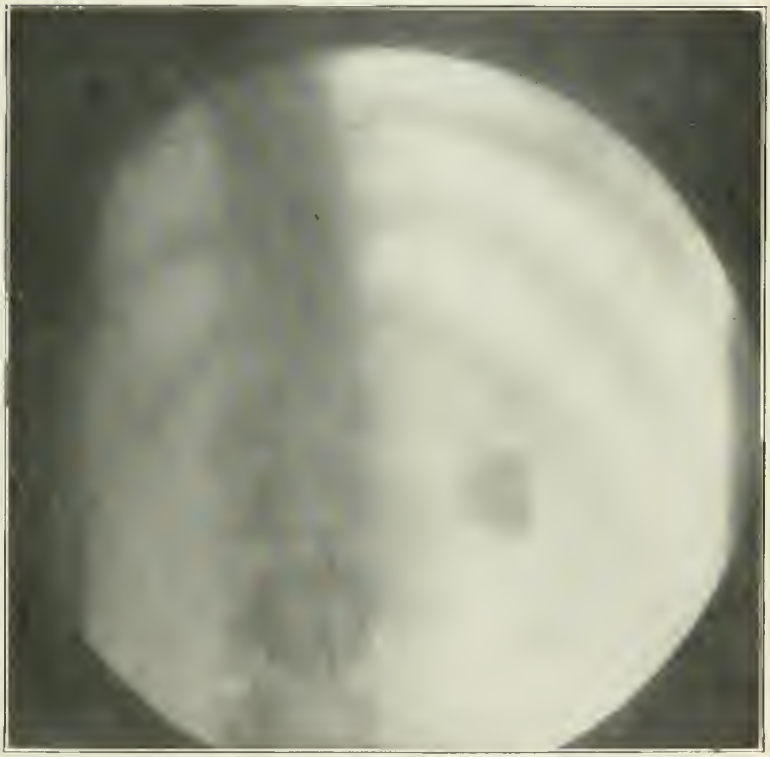
The shadows of suspected renal calculi must be differentiated from scybala in the intestines, from infarcts in the kidney, from tuberculous foci, from calcareous mesenteric glands, and from centers of ossification in the transverse processes and not ribs.

[1] Neuhauser. Folia Urologica, Vol. IV.

[2] A more detailed description can be found in two previous articles, in *Southern Medical Journal*, February, 1909, and *Surgery, Gynecology and Obstetrics*, April, 1910.

To Illustrate Dr. Eisendrath's Article on "The Diagnosis of Kidney and Ureteral Calculi."

Albany Medical Annals, October, 1911



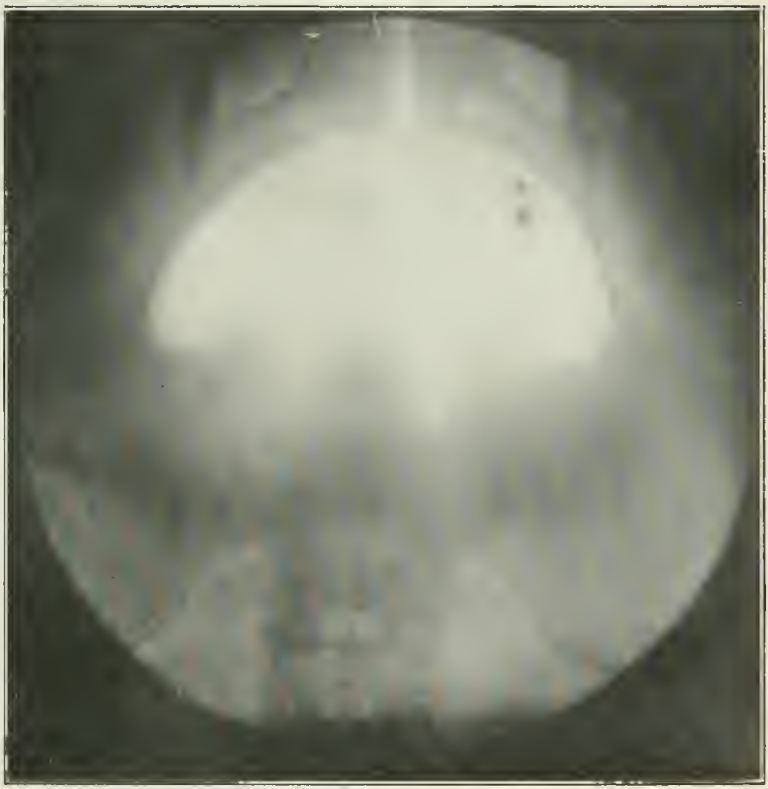
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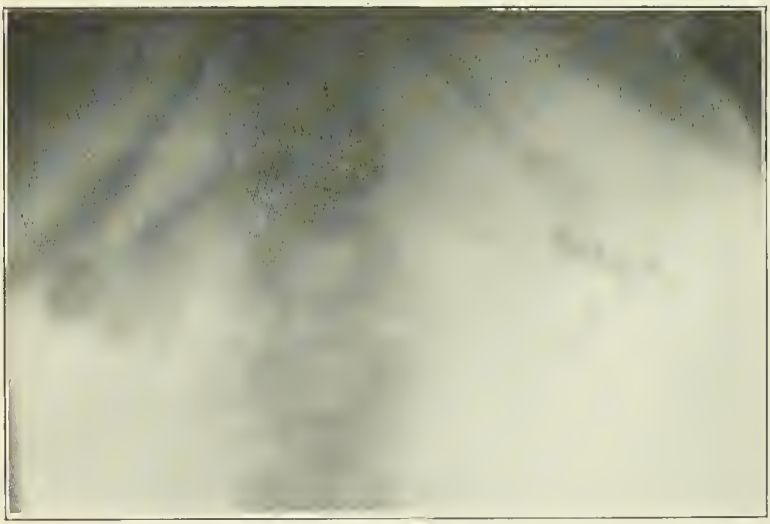
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The shadows of ureteral calculi must be distinguished from foci of ossification in the pelvic ligaments, from phleboliths and calcified glands. If the patient has been carefully prepared, the chances of error in interpreting a renal skiagraph are very slight. In the case of suspicious shadows in the line of the ureter, one can in cases of doubt take another picture with a bougie of fine fuse wire inserted into a ureteral catheter.

If stone shadows are present, the skiagraph shows whether or not the kidney is in its normal position. If one wishes to be absolutely certain of its location, it is best to inject a solution of some silver salt like ten per cent protargol or fifty per cent cargentos through a ureteral catheter or insert a wire into the ureter, and take another picture. Both of these methods yield such deep shadows of the renal pelvis and of the ureter that the former method (injection of silver solutions) is not only useful in showing the location of the kidney, but gives one a good idea as to the amount of dilatation of the renal pelvis.

The skiagraph is in nearly every case the court of last resort in the diagnosis of renal and ureteral calculi.

In a normally located kidney, a stone shadow lying opposite the transverse process of the first lumbar vertebra means that the stone is located just at the outlet of the renal pelvis, and can be best removed through an incision (pyelotomy) into the posterior avascular aspect of the pelvis, a method of operation which is easier and far less apt to be accompanied or followed by bleeding than the older method of extraction through an incision through the convexity of the kidney (nephrotomy). When the shadow is lower down, the calculus lies in the upper part of the ureter. A stone shadow may be obscured by lying upon that of a rib, hence it is best to look at the dried plate in the special diagnostic box.

From my own observations of nearly a hundred and fifty kidney and ureter radiographs I have found the following table of great assistance in diagnosing the position of the calculus and the probable condition of the kidney:

Renal Shadows: Calculi in parenchyma proper—round and small shadows:

Calculi in dilated pelvis—coral-like or triangular shadows.

Calculi at ureteropelvic junction—lie opposite transverse process of first lumbar vertebrae.

Calculi in uronephrotic (infected) cavities (dilated calyces), multiple and scattered round and oval shadows.

Ureteral Shadows:

These may be single or multiple—usually small and round or almond-shaped—seldom facetted and large.

Various combinations of calculi with corresponding shadows may occur, viz.:

(a) Calculi in both kidneys.
(b) Calculi in one kidney and opposite ureter.
(c) Calculi in both ureters.
(d) Calculi in kidney, ureter and bladder.
(e) Calculi in ureter and bladder.

These possibilities simply show the absolute necessity of including the entire urinary tract in a thorough radiographic examination. The chagrin of overlooking calculi in other locations than the small field usually included in pictures, and the possible occurrence of more serious conditions like anuria from blocking of the opposite kidney after operating on one kidney will well repay the extra labor and expense. Another important point to remember is that (a) only one kidney may exist; (b) that horseshoe kidneys occur, and (c) that a dystopia of one or both kidneys may be present. There are three positions in which the kidney may be located if congenitally displaced (dystopia). The most common one is about halfway between the last rib and the crest of the ilium. The second position is where the kidney lies to a great extent in the iliac fossa. The third position is in the true pelvis. These dystopic conditions must not be forgotten in interpreting the position of the X-ray shadows.

In regard to the characters of the stones which give the best shadow, it may be said that the so-called oxalate and mixed phosphate and carbonate stones give the most dense shadows. Uric acid calculi are often the source of great disappointment, owing to the fact that they will, even with the best technique, yield faint shadows.

Taking it all in all it may be said that we can secure shadows in practically ninety-nine out of one hundred cases, if stones are present, provided that the preparation of the patient and the proper technique have been employed.

The general practitioner does not have the advantage of the X-ray in every case. He must depend to a great extent upon the clinical history. I believe that the clinical classification given above will be of considerable assistance, so that at least the suspicion is aroused that calculi may be present, even when no typical renal colics occur.

The general practitioner should from the clinical methods alone be able to draw the conclusions in the majority of cases, first, that the urinary tract is the seat of trouble, and, second, that he can exclude one by one the various diseases which might give similar symptoms, and arrive at a fairly accurate diagnosis of the presence of calculi as the source of the kidney trouble.

OCCLUSION OF THE POSTERIOR INFERIOR CEREBELLAR ARTERY, A DEFINITE SYMPTOM-COMPLEX:

With the Report of Three Cases of Thrombosis of the Right Inferior Cerebellar Artery.

By HERMON C. GORDINIER, M. D.,

Troy, N. Y.

The symptoms consequent upon the softening by occlusion of the posterior inferior cerebellar artery and resultant from a loss of function of important cranial nerve nuclei, and conducting paths, are so characteristic that they form a complex equally as definite, if not more definite than the interesting symptom-complex with which we are so familiar: the so-called Brown-Sequard's spinal paralysis.

It is astonishing that with a complex whose symptoms are so definite and exact one can find so few cases diagnosed and recorded in the literature.

The first case of occlusion of the posterior inferior cerebellar artery recognized and reported in America was by Drs. Henry Hun and Ira Van Gieson in 1897. Since then but four cases have been reported in this country, two by Thomas in 1907 and two by Spiller in 1908. In England one case has been reported;

sixteen cases have been reported from Germany and two from France. All of these cases have been abstracted by Spiller save the one reported from England which will be appended to this article.

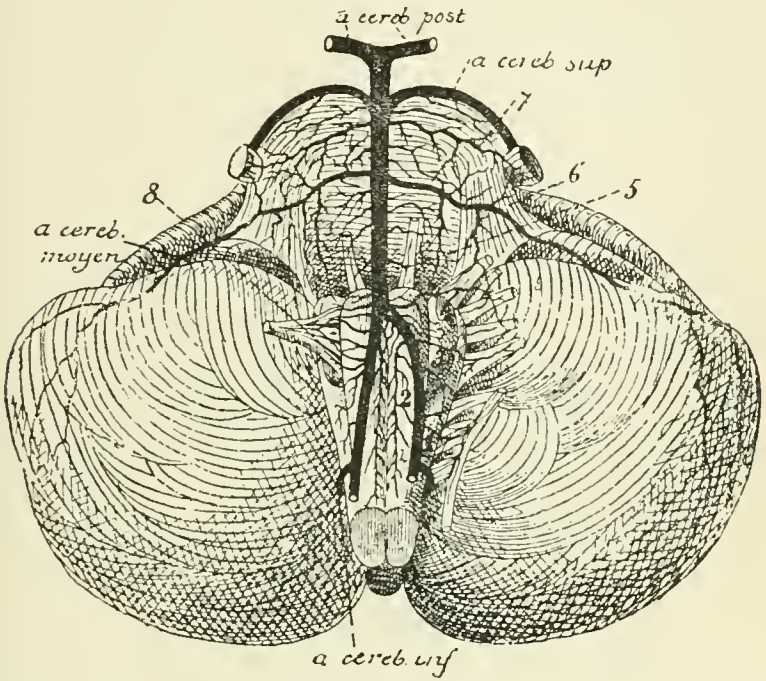
The cases herein recorded of occlusion of the posterior inferior cerebellar artery have been under my observation for some time and would have been reported before had I not hoped to be able to verify my opinion by post-mortem observation. Two of the cases have succumbed without such opportunity and the third case has sufficiently recovered so as to be able to attend to many of her household duties.

Anatomy.

The posterior inferior cerebellar arteries are the longest branches of the vertebrals and have their origin from them opposite the lateral surfaces of the medulla oblongata near its middle portion or just about two centimeters below their union to form the basilar. Each vessel passes outward and backward across the restiform body and between the pneumogastric and hypoglossal nerve roots; it then passes to the under surface of the cerebellum where it divides into two branches an internal or inferior vermiform branch and an external or hemispheral branch. The inferior vermiform branch passes backward between the vermiform process and cerebellar hemisphere, supplies the vermiform process and anastomoses with the vessel of the opposite side and the superior vermiform, a branch of the superior cerebellar artery. The hemispheral branch is distributed to the under surface of the cerebellum and anastomoses with the middle and superior cerebellar arteries.

As the inferior cerebellar artery winds around the medulla oblongata it gives off several terminal end-arteries which supply the lateral field of the formatio reticularis and restiform body. The anterior and median areas of the medulla oblongata are supplied by branches of the anterior spinal arteries and the olivary bodies by lateral branches from the vertebrals. Hence an occlusion confined to either one of the inferior cerebellar

arteries would not injure the hypoglossal nuclei, or other nuclei on the ventricular floor; the posterior longitudinal bundles, mesial fillet, anterior pyramids, or olivary bodies.



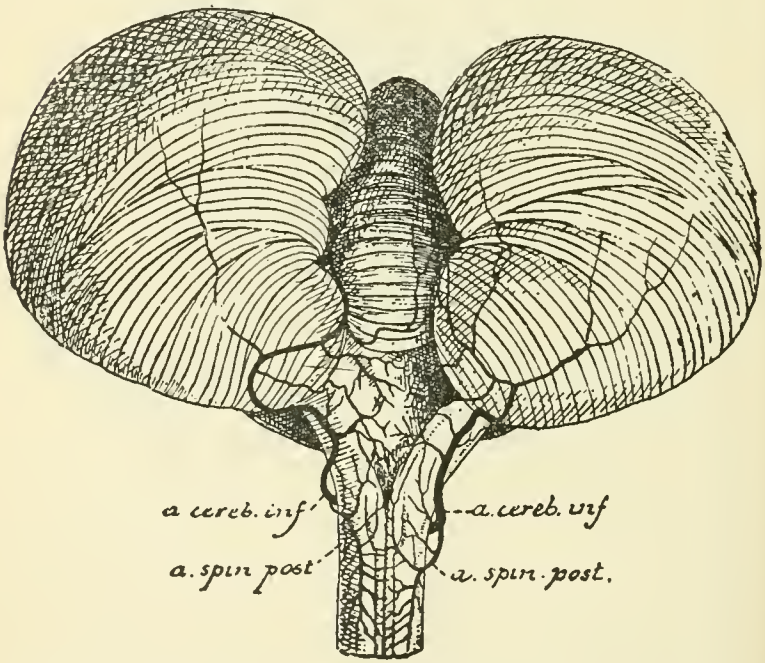
Arteries of the Anterior Surface of the Pons and Medulla.—(*After Duret.*)

a. cereb. post. Posterior cerebral artery. *a. cereb. sup.* Superior cerebellar artery. *a. cereb. moyen.* Middle cerebellar artery. *a. cereb. inf.* Inferior cerebellar artery.

1. Root-arteries of spinal accessory nerve. 2. Anterior spinal artery. 3. Root-arteries of pneumogastric nerve. 4. Root-arteries of glossopharyngeal nerve. 5. Root-arteries of the oculomotor nerve. 6. Root-arteries of the facial and acoustic nerves. 7. Root-arteries of the trigeminus nerve. 8. Root arteries of hypoglossal nerve.

The cerebellum would be in no wise compromised because of the free anastomosis between this artery and its fellow of the opposite side, together with the superior and middle cerebellar arteries.

The area of softening in the lateral field of the medulla oblongata as shown by the careful studies of Hun and Van Gieson, Spiller and Thomas is sharply limited to the formatio reticularis grisea and restiform body and has a vertical extent from about the middle of the hypoglossal nucleus to the point where the restiform body passes into the cerebellum. Its greatest antero-posterior extent is from the dorsal blade of the lower olive to the restiform body.



Arteries of the Posterior Surface of the Medulla.—(*After Duret.*)

a. cereb. inf. Inferior cerebellar artery. *a. spin. post.* Posterior spinal artery.

The parts usually involved in this field of softening are the ventro-lateral ascending tract of Gowers; the direct cerebellar tract; the descending vestibular and trigeminal tracts; cerebello-olivary fibres; nucleus ambiguus, vasomotor and sympathetic

fibres, and other fibres which pass *via* the restiform body. The auditory nuclei and nerves are occasionally involved, while the facial and abducens are rarely implicated unless the thrombus extends into the vertebral.

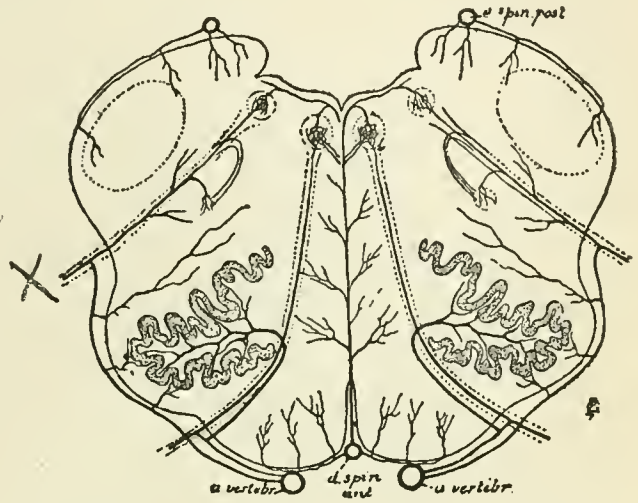


Diagram to Show Plan of Distribution of the Arteries of the Medulla.—(*After Duret.*)

a.spin.post. Posterior spinal artery. *a.vertebr.* Vertebral artery. *a.spin. ant.* Anterior spinal artery.

Symptomatology.

The symptoms which go to make up this complex have been so carefully and comprehensively described by Spiller from a study of the cases in the literature and two of his own that I have apart from a few alterations followed his description very closely. They are as follows:

(1) Sudden onset without loss of or disturbance of consciousness.

(2) No paralysis or paresis of the muscles of the extremities or the muscles innervated by the fifth nerve (owing to the motor paths contained in the ventral pyramids being supplied by the vertebrals and anterior spinal arteries, while the nucleus and axones of the motor fifth are nourished by the basilar).

(3) Diminution or loss of pain and temperature sensations in the limbs of the side opposite to the lesion, rarely also in the side of the face opposite to the lesion. Diminution or loss of sensation of pain and temperature in the distribution of the fifth nerve on the same side as the lesion. (Formatio reticularis grisea, Gower's tract, ventral fasciculus, descending trigeminal tract.) Spontaneous pain, or some form of paraesthesia in the area of disturbed objective sensation.

(4) Tactile sensation intact in all parts (median fillet not involved). Sense of position usually intact.

Rarely a zone exists of intact sensation in the neck between the zone of disturbed sensation in the limbs of one side and the face of the opposite side.

(5) Ataxia in the limbs corresponding to the side of the lesion, (involvement of the direct cerebellar tract, restiform body and cerebello-olivary fibres), indicating that the fibres of coordination do not decussate below the medulla oblongata.

(6) Tendency to fall or sway toward the side of the lesion; tendency for the head to drop toward the side of the lesion. (Restiform body.)

(7) Nystagmus bilateral, more intense when eyes are directed toward the side of the lesion. (Deiter's nucleus?)

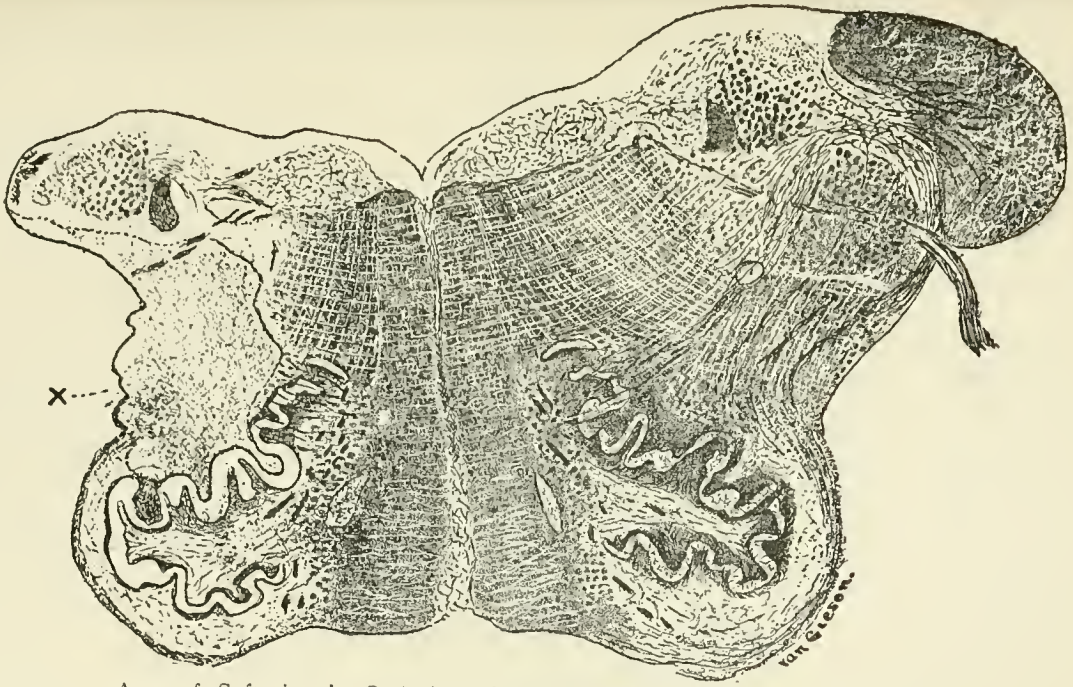
(8) Menière's symptom-complex: vertigo, revolving vertigo, auditory hallucinations, vomiting, deafness on side of lesion (Deiter's nucleus, vestibular nerve and nucleus, cochlear and vagus nerves).

(9) Paralysis of the muscles of deglutition on the side of the lesion, but causing complete inability to swallow, with impaired sensation of pharynx. Paralysis of soft palate on the side of lesion, paralysis of the larynx on the side of the lesion, vocal cord immobile in cadaveric position, voice hoarse, and speaking is in a whisper (loss of phonation with preservation of articulation). (Nucleus ambiguus and vagus.)

(10) Tongue rarely a little weak on the side of the lesion, but weakness soon passes away, as the hypoglossus nerve and nucleus usually escape.

(11) Taste may be lost in anterior two-thirds of tongue although this is only an occasional symptom.

(12) If the sixth and seventh nerves are implicated it indicates an extension to the vertebral as these nerves are not in-



Area of Softening in Occlusion of the Posterior Inferior Cerebellar Artery

Represents a section through the medulla oblongata in a plane corresponding to the upper vagus or glossopharyngeus roots, and two or three millimetres caudad to the plane of junction of the pons and medulla. The focus of softening is shown at X and areas of degeneration are shown surrounding and within both olivary bodies. The section is not strictly transverse, the right side being slightly cephalad to the left. The anterior pyramids became detached from this section and are not represented.

Borrowed from Dr. Hun's article.

volved when the thrombus is confined to the posterior inferior cerebellar artery.

(13) Sympathetic disturbances on the side of the lesion (formatio reticularis grisea), smallness of the pupil, ptosis, narrowing of the palpebral fissure, retraction of the eyeball, on the side of the lesion. Loss of sweating in the face on the side of the lesion, or increase of sweating in the face on the side opposite the lesion.

Hiccough, hemi-asynergy on the side of lesion. Pulse may be rapid from paralysis of the vagus or slow from irritation of it.

(14) Reflexes not characteristic.

Case I.—Thrombosis of right posterior inferior cerebellar artery. Mr. S. C. White. Male. Age 65 years. He was born in Ireland, and is a blacksmith by occupation. Entered the Samaritan Hospital, December 5, 1899, complaining of pains in the head especially on arising in the morning. A staggering gait, vertigo, difficulty in swallowing, a partial loss of vision, and right sided deafness.

The family history is unimportant.

Personal History.—As a child he was always healthy; he denies venereal taint; he occasionally drinks beer but never to excess. At the age of 32 years he was struck on the right side of the head and face with a derrick handle, which rendered him unconscious for a short time. He was treated about a month for this injury in a hospital in England, where he was told that no fracture of the skull had occurred. At the age of 36 years he came to this country, and apart from the present illness has always enjoyed good health.

The present illness began at noon July 26, 1899, with a severe attack of vertigo, nausea, and vomiting. He walked to his home, and in the middle of the afternoon he had a similar attack. He called a physician who controlled for a time the nausea and vomiting, but it soon recurred. His sleep was disturbed, and the following morning on attempting to get out of bed he found that his right leg was clumsy and he could not handle it properly, nor could he stand properly on it. While recumbent he could move it in all directions, but he could not control the position of it, and it felt weak. He also noticed that shortly after the onset of this attack that his speech was difficult and his voice faint and low. About noontime of the 27th, hiccough began and continued in paroxysms for a week, when it suddenly ceased. His speech became more difficult but he could always be understood, and he perfectly comprehended what was being said to him. It was about five weeks after the onset of the attack before he could go about. He complains of numbness of the whole right side, but especially of the right side of the face and leg. Hearing in the right ear is almost nil. His deafness he is very sure came on with the onset of the present illness. He states that in walking he always falls or sways to-

wards the right side. From the very onset he states that he has had great difficulty in swallowing, but this symptom is fast improving.

Examination.—The patient is slenderly built, weighs 145 lbs., and is five and one-half feet high. Physical examination of the lungs shows nothing from the normal.

Heart and Arteries.—Both the temporal and radial arteries are decidedly thickened. The apex of the heart is in the fifth intercostal space, well outside of the mamillary line. The aortic second sound is distinctly accentuated. No murmurs exist. The pulse is regular, but firm, and equal on each side. The arterial pressure was not taken.

The outline of the liver dullness is normal. The spleen is not palpable or percussible. The abdomen was gererally tympanitic. It was soft and presented no enlarged veins, tumor masses, or herniae.

The urine contained a few hyaline casts, and a trace of albumen. Its specific gravity was 1.010.

Nervous System.—His memory both for recent and past events is good. There is no aphasia, his speech is slow, and his voice weak and low in pitch.

Cranial Nerves.—Owing to the presence of cataracts, his vision is much reduced in each eye, and because of this fact the discs cannot be properly viewed. The right pupil is small and contracted, the left pupil is midwide; both pupils react to light and accommodation. His ocular movements are normal. No nystagmus or diplopia exists. He still has difficulty in swallowing, especially solids. Dr. Roarke who examined his throat states that there is complete immobility of the right side of the pharynx and larynx. The tongue functionates normally. There is no facial paralysis. He can hear a watch tick but two inches away from the right ear.

The hearing in the left ear is normal. The drum membranes appear normal. The tuning fork was not used. There is loss of the sense of taste over the anterior portion of the right side of the tongue. It is normal on the left side. There is no motor paralysis. All movements of the extremities are well performed, although those of the right arm and leg show marked ataxia. His gait resembles very closely that of a drunken man. He walks with his feet wide apart, and he constantly sways towards the right side. Romberg's symptom is absent, but he always falls towards the right side when one attempts to elicit the sign.

The Reflexes.—The tendon reflexes of the upper extremities are absent. The patellar reflexes on each side are diminished. There is no clonus or Babinski sign. The superficial reflexes are normal.

Sensations.—There is marked ataxia in the right arm and leg. There is no loss on either side of the tactile sense; unfortunately no note was made of the condition of the thermal or pain sense. The patient remained in the hospital but a few days when he went to his home in Hoosick Falls. I learned from his physician that his symptoms for a time improved. He died, however, and no autopsy could be obtained.

Case II.—Thrombosis of the right posterior inferior cerebellar artery. F. C. Age, 50 years. Occupation, superintendent of freight transfer. En-

tered the Samaritan Hospital June 22, 1904. Complaining of tingling and pain in the whole right side of the face, staggering toward the right side, vertigo, and difficulty in walking.

Personal History.—He has had all the diseases of childhood; at fifteen years of age he had typhoid fever. Twelve years ago he states that he got a foreign body in his right eye, for which he was examined by Dr. Merrill, who told him that he had an ulcer of the cornea. Five years later he developed a similar condition in the right eye, and it was also diagnosed as an ulcer. He denies syphilis, but states that he had gonorrhoea when a boy.

The present illness began about five weeks ago with a severe pain in the back of the head (occipital region); two weeks later while at dinner he was suddenly seized with a most indescribable sensation, he became very weak and dizzy, staggered badly, but did not fall or lose consciousness. He noticed immediately afterwards that he could not swallow, this symptom lasted for many days, when he gradually became able to swallow liquids and soft foods. He is very dizzy, especially on arising from the recumbent posture. In walking he always staggers distinctly towards the right side often striking objects on that side.

Examination.—He is a powerfully built, very muscular man, with a florid complexion, and without edema, cyanosis or dyspnoea.

Lungs.—Apart from the physical signs of moderate emphysema the lungs show nothing abnormal.

Heart and Arteries.—Pulse 64, regular, vessel walls easily compressible; they show no marked thickening or tortuosity; the tonometer shows the arterial tension to be about 115 mm. of Hg. The cardiac apex is in the fifth intercostal space just outside of the mammillary line. The cardiac dullness is almost effaced by a vesiculo-tympanitic note. The heart sounds are clear but distant and weak. There are no adventitious sounds. The liver and spleen show nothing from the normal. The urine is normal.

Nervous System.—The right pupil is small, the left midwide; both are responsive to light and accommodation, and act consensually. Rotation of the eyeballs is normal, and no diplopia exists. There is no heminopsia or nystagmus present. There is distinct ptosis of the right eyelid. There is no marked narrowing of the right palpebral fissure, or retraction of the eyeball. The muscles innervated by the facial, and the fifth nerves functionate normally. The tongue when protruded goes slightly towards the left side and presents a slight but fine tremor. The cornea of the right eye presents a stellate scar and it is generally cloudy, the process resembling closely that of an old interstitial keratitis. The cornea of the left eye is clear. The vision in the right eye is much reduced, that of the left is normal. The left optic disc is normal and the media are clear. Owing to the scarred condition, and cloudiness of the right cornea, the right optic disc could not be properly viewed. When the patient swallows there are no movements of the right side of the pharynx and palate. The left vocal cord moves much better than the right. The masticatory muscles are not paralyzed. The sense of taste and smell are normal. He never

sweats on the right side of his face, forehead or neck, but does so freely on the opposite side.

Gait.—The patient walks with his feet wide apart and staggers distinctly towards the right side, often striking objects on right. The gait resembles very closely that due to cerebellar disease. There is no Rombergism.

Motion.—All movements of the extremities are normally performed. The grasp of each hand is equal. The motor power of the lower extremities is normal. The muscles are not flabby or wasted and no tremor is present.

Sensation.—Left Side.—There is complete loss of sensation to pain and temperature over the whole left side of the face, neck, arm, trunk, and leg with the exception of the palmar and plantar surfaces of the left extremities. The tactile sense is normal over the whole left side. The patient appreciates at once the slightest contact with the skin, of cotton or of fine pointed instruments, but when the latter are forcibly pressed against the skin or through it, he is unconscious of pain. The steriognostic sense is preserved.

Right Side.—There is perfect preservation of the tactile, temperature, and pain sense over the whole right side, but there appears to be slight hyperaesthesia to touch over the right arm and leg. There is very marked ataxia of the right arm and leg. He complains bitterly of a tingling pain in the right side of the face, but the sense of temperature in the distribution of the branches of the right fifth nerve does not seem perverted. There is no stiffness of the neck, or pain on movement of the head; or on percussion of the scalp. The patient's voice has changed, he talks low; but it is perfectly possible to understand him, and he presents no dysarthesia or aphasia. His mind is perfectly clear.

Reflexes.—The tendon reflexes of the upper limbs are absent. The right patella reflex and the tendo-achilles jerk are greatly diminished. There is no ankle clonus or Babinski sign. The superficial reflexes are preserved.

Left Side.—The patella reflex of the left side is lively, the tendo-achillis jerk is lively, and the superficial reflexes are normal. There is no ankle clonus; there are no trophic disturbances. Several delicate scars exist, involving the skin covering the calf of the right leg.

A diagnosis was made of thrombosis of the right posterior inferior cerebellar artery.

Treatment.—The patient was placed on ascending doses of potassium iodide together with inunctions of mercury.

July 6, 1904.—He seems slightly improved; he swallows with less difficulty, has less giddiness, and no headache, but when he walks he sways quite as much to the right side. He has complete thermal anaesthesia, and analgesia of the whole left side together with marked ataxia of the right arm and leg. There is no anaesthesia of the mucous membranes of the mouth, and he is perfectly able to appreciate heat, and cold in the mouth. The sense of smell and taste is normal, and he hears the watch tick twenty inches away from the ear. There is no loss of motion and his tongue protrudes in the median line.

August 15, 1904.—The patient is much improved, he sways to the right side but not nearly as much as at the first examination. No change in the thermal anaesthesia of the left side exists. The analgesia is not marked, as he is able to perceive, as pain, pin pricks over the whole left side, although not nearly so acutely as on the right side. There is now no hyperaesthesia of the right side. The ataxia of the right side is still very marked. The whole right side of the face pains, and prickles. He is still very dizzy; he can swallow very much better; the special senses are preserved. The tongue protrudes straight, and presents no tremor or wasting.

September 1, 1904.—Patient left the hospital and went to his home at Mechanicville where he remained until his death about a year later.

Case III.—Thrombosis of the right posterior inferior cerebellar artery with possible implication of the vertebral. Mrs. E. E. White. Age, 54. Occupation, housewife. Entered the Samaritan Hospital June 7, 1909, complaining of intense dizziness, double vision, inability to stand and absolute inability to swallow.

Family History.—Mother died at the age of fifty-eight years. Cause unknown. Father died at the age of fifty-eight years from abscess of the neck. Lost a sister in childhood. Her maternal grandparents died of tuberculosis. Her paternal grandfather died of cardiac disease.

Personal History.—She had never been ill since childhood until thirteen years ago when she had a miscarriage at three months. Just prior to that she had a rash on her skin of a dark red color. Shortly after the appearance of the rash, her hair and eyelashes fell out, and she developed severe nocturnal headaches. She was treated for a long time by a physician who gave her among other things, potassium iodide. The patient states that all through the winter there has been a tendency for her to fall towards the right side.

The present illness was first noticed by the patient Sunday morning June 7, 1909. She retired in her usual good health Saturday night and slept well, but on awakening Sunday morning she noticed that her voice had changed, that she could not swallow, and that any movement whatsoever brought on intense giddiness. On attempting to get out of bed she seemed to be revolving in space as were the objects in her room. While in bed she could move her limbs freely and normally, but when she attempted to stand or walk, owing to the loss of equilibrium, she would fall helpless to the ground. She also states that when looking about the room she saw double. Her headaches have entirely ceased since the onset of the present illness.

Examination.—The patient is a stout robust looking woman without oedema or cyanosis. She weighs one hundred and sixty pounds and is five feet six inches in height. The heart sounds are distant and feeble, the area of cardiac dullness is not increased. The pulse is regular, full, and 42 per minute. The Janeway apparatus shows a systolic pressure of 160 mm. of Hg. and a diastolic of 120. The lungs show nothing abnormal. The urine, apart from containing a trace of albumen and a few casts, shows nothing from the normal.

The blood shows a red cell count of 4,350,000 and the white cell count 8,500. Microscopically the cells appear normal.

Nervous System.—Cranial Nerves.—All movements of the head are performed in a normal manner. Both pupils are perfectly spherical, but the right is distinctly smaller than the left. There is a rotary nystagmus affecting both eyes. The pupillary reactions to light and accommodation are preserved. The ocular muscles functionate normally. There is marked ptosis of the right eyelid. There is a distinct narrowing of the right palpebral fissure, and enophthalmos. There has been an entire absence of sweating over the right side of the face, neck, and upper part of the trunk. Irritation of the cervical sympathetic of the right side produces no dilatation of the pupil, while irritation of the sympathetic of the opposite side produces an active response. There is a slight paresis of the facial muscles of the right side. There is no weakening of the masseter and pterygoid muscles on the right side. The tongue is protruded straight and is normal. The senses of taste and smell are normal. Hearing as tested with the watch is normal in both ears. The drum membranes appear normal. Tactile sense is preserved over both sides of the head, face, and neck. There is marked diminution of pain and temperature sense in the distribution of the right trigeminal nerve. The uvula and soft palate are drawn over to the left side. When the patient attempts to phonate no movements of the right side of the throat occurs. There is paralysis of the whole right side of the larynx. The right vocal cord is motionless, in the cadaveric position. There is absolute paralysis of deglutition, and while the patient feels the stomach tube when being passed, she cannot distinguish the temperature of the fluid passing through it.

Motion.—Motion is perfectly normal in the muscles of the trunk and extremities, there is a very slight weakening of the facial muscles of the right side. The tactile sensation is normal. There is complete analgesiæ of the left side of face, left arm, left half of trunk to the median line, and the left leg. The pain sense is normal over the right leg and arm. There is thermal anaesthesia of the left side of face, left arm, trunk and leg. It is normal in the right leg, trunk and arm, but greatly diminished especially to cold, in the distribution of the right trigeminal nerve.

The finger-nose and heel-knee tests brings out very marked ataxia in the right arm and leg.

The sense of position is normal; the sense of touch is preserved over the mucous membrane of the tongue, mouth and pharynx. The temperature sense is diminished over the same named parts.

Reflexes.—The triceps and wrist-tendon reflexes are present on both sides. The left patella reflex is lively, there is no clonus or Babinski. The right patella reflex is normal. The tendo-Achillis jerk is present on both sides. The plantar reflexes are of the flexor type. The umbilical and epigastric reflexes are absent. No trophic disturbances are present.

The patient remained in the hospital four weeks, during which time she was fed by means of the stomach tube. She was placed on ascending doses of potassium iodide, and given inunctions of mercury, and in many ways, left the hospital much improved.

Her physician recently informed me that she has no nystagmus or double vision, and is able to walk, but always sways towards the right side. She has much less vertigo, and is beginning to swallow small quantities of liquids and soft food. She can phonate better, and her voice is much louder.

He has made no sensory tests.

January 17, 1910.—Patient seems much improved, is able to walk about but sways toward the right side and often strikes objects on her right. There is no tremor. The right pupil is contracted and spherical, both pupils are responsive to light and accommodation and conscensually, but the right don't dilate on irritation of the right cervical sympathetic. There is no nystagmus or double vision. Ptosis still exists on the right side, and the right palpebral fissure is narrowed and the right eyeball retracted. She states that she sweats much less on the right side of neck and face than on the left. The tongue is protruded straight. Hearing is normal. There is still great difficulty in deglutition and she has to make the effort to swallow several times, but the food goes down. She chokes frequently.

Sensations.—Ataxia remains in right arm and leg. There is no Romberg. There is a distinct reduction of temperature and pain sense in the distribution of the right trigeminal nerve. Tactile sense is normal. Pain and temperature sense is lost over whole left side of face, neck, trunk and extremities.

Station is good. No ataxia of left side. She complains of intense heat in left arm.

The symptoms occasioned by the occlusion of the right posterior inferior cerebellar artery are beautifully exemplified by the three cases above narrated. They may be briefly summarized as follows:

Sudden onset without disturbance of or loss of consciousness: remarkable and long persistent vertigo with nausea and vomiting; deafness on the right side; absolute inability to swallow due to paralysis of the muscles of deglutition of the right side; voice low and hoarse. Staggering toward the right side, often striking objects on that side, the gait resembling closely that due to cerebellar disease. Complete analgesia and thermic anaesthesia of the left side of the arm, trunk and leg, and in two of the cases partially so of the left side of face; absolute preservation of tactile sense on same side. Marked ataxia and loss of muscle sense of the right arm and leg with perfect preservation of the tactile sense on whole right side; diminution or loss of pain and temperature sense in distribution of the right trigeminal nerve (observed only in case three). Impairment of sense of pain and temperature in pharynx while sense of touch was normal. Contracted pupil, ptosis narrowing of the palpebral

fissure, retraction of eyeball of right side, loss of sweating on the right side of face and neck. Motor power normal and no permanent paralysis in the domain of the right facial and hypoglossal nerves unless thrombus extends into vertebral.

In case three a temporary right sided facial paralysis existed. Pulse slow in all three cases probably due to vagus irritation, may be rapid from vagus paralysis.

The reflexes were not characteristic.

These symptoms are doubtless due to implication (by the area of softening) and consequent loss of functioning of the following important conducting paths, cranial nerve nuclei and their root fibres. The ventrolateral ascending tract of Gowers; the direct cerebellar tract of Flechsig; the descending vestibular tract and coehlear nerve roots. Dorsal and ventral auditory nuclei. The cerebello-olivary tract; the nucleus ambiguus or combined motor nucleus of the glosso pharyngeal and pneumogastric nerves, vasomotor and sympathetic fibres.

It would be but a mere repetition here to attempt an explanation of the causation of the symptoms of this important complex based upon a destrduction of the above mentioned fibre systems and nuclei, as that has been sufficiently done under the heading symptomatology.

The following conclusions may be drawn from a study of the three cases herein reported and from those taken from the literature:

(1) That the branches of the posterior inferior cerebellar artery which supply the medulla oblongata are physiologic end-arteries;

(2) That occlusion of this artery occasions a perfectly definite symptom complex;

(3) That the area of softening resultant from occlusion of this artery is strictly limited to the lateral field of the formatio reticularis and restiform body;

(4) That the salient clinical symptoms of this complex are easily explainable by the loss of functioning of the important tracts of fibres and cranial nerve nuclei contained in the softened area;

(5) That no motor paralysis is present unless the thrombus extends into the verteberal or basilar arteries;

(6) That this complex is equally as characteristic as that of the so-called Brown-Sequard's Spinal Paralysis.

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ADDENDUM.

Abstract of S. A. K. Wilson's Case—Thrombosis of the Left Posterior Inferior Cerebellar Artery. *Proc. Roy. Soc. Med., Lond.,* 1908-9.

The attack began suddenly with faintness and giddiness, and a flush came over the right side of the face and neck. He kept falling to the left and ran into objects on the left side. He had difficulty in swallowing, which lasted for two months. The conjunctiva of the left eye was bloodshot and the left upper eye-lid dropped. The left pupil was smaller than the right. When lying in bed the left side seemed to be raised and the wall falling on him. There was tingling and numbness over the left side of the face. Warm drinks felt natural on the right side of the mouth but ice cold on the left. Cold fluids gave the opposite effect, causing burning or prickling on the left side. The incoordination of the left arm and leg was marked. On looking to the left, he had diplopia, which became greater the further he turned his gaze. His voice is inclined to be high pitched. Both pupils react to light and accommodation. There is left ptosis and small pupil. There is left lateral nystagmus. Hearing was normal. There was no facial asymmetry. The palate was weak on the left side; the left vocal cord was paralyzed. There was no motor paralysis of the arms, and the grasp was good. The right leg seemed less strong than the left, but the deep reflexes were normal, as were the plantar and abdominal. There are subjective sensations of heat and tingling on the left side of the face and right leg, and have spread to the right leg, right trunk and arm. Pressure caused all degrees of warmth, slight pressure causing a pleasant sensation of warmth and stroking caused tingling, while squeezing caused both to be accentuated. Slight breezes were pleasing to the patient, causing warmth to the surface.

The objective sensory changes were as follows: *Touch.*—The sense of touch was everywhere normal, but not so "tickly" over the left trigeminal area as over the right side, and the localization was perfect. If touch passed into pressure, it caused tingling warmth already referred to. Deep sensibility was normal and the localization perfect. Muscle sense was normal. Cutaneous pain was lost over the affected areas, *i. e.,* the left half of the face, and the right half of the body. The left half of the tongue, mouth, palate, fauces and pharnyx.

Temperature.—There was loss to all degrees of heat and of cold on the left side of the face, and the application of the tube gave rise to a sense of pressure or touch on the whole right side. All degrees of heat gave the sensation of being tepid or slightly warm. There was complete loss of sensibility to all degree of cold, but the application of the tube produced warmth or smarting heat, apart from the question of pressure. The localization of the stimuli was correct.

The above symptoms lasted for two months. He still had a tendency to fall to the left. He also had difficulty in breathing and tachycardia on exertion. Taste was lost over the whole left half of the tongue. No loss of touch in the mouth. Four months after improvement began, and the following points were noticed. There is some feeling of helplessness on sudden change of position, but this quickly disappears. He gets a better volume of sound and his voice is nearly normal. There is no difficulty in swallowing. The sweating has ceased and the left palpebral fissure is slightly harrowed. Diplopia and nystagmus are gone. The motor Fifth is normal on both sides. The reflexes are normal. The subjective sensations of tingling warmth on the left half of the face and the right half of the body are less in evidence. Rubbing the left side of the face causes a sensation of warmth not to radiate. The oblective sensory changes are as follows: Touch is less "tickly" on the left side of the face as at first. Tactile sense is normal. Deep sensibility. Although there is absolute loss to cutaneous pain over the right side of the body, deep pressure pain is not affected. The face shows the same symptoms. Muscular sense is normal. Cutaneous pain has shown some improvement. The upper limit of loss on the right side is indefinite over the jaw and neck. The analgesia of the mouth, pharynx, etc., continues. Taste is entirely lost on the left side.

Temperature.—Sensibility to cold has returned over the right side of the face in its middle part and an area under the left eye. Cold is felt as touch or pressure, or as a pleasant warmth. Cold causes no tingling on the face. On the right body it occasions smarting, tingling sensations with no element of coldness.

One important feature remains. The patient said that pricking of the left side of the face never caused bleeding, and this is also true of the right side of the body. After the diminution of the subjective sensation bleeding always followed the pin-prick.

EXOSTOSIS OF THE OS CALCIS.

By JOHN McWILLIAMS BERRY, M. D.,

Orthopedic Surgeon and Radiographer, Albany Hospital, Albany, N. Y.

So much has been written in regard to weakened feet that the resulting disability or deformity is now almost universally recognized. Even outside of the medical profession there is a partial knowledge of the etiology and symptomatology and the condition can be discussed glibly by progressive shoe clerks and salesmen for ready-made braces.

In some ways this general knowledge of weakened foot troubles is advantageous but in other ways it is a detriment. Whereas formerly all painful conditions of the feet were apt

to be attributed to rheumatism, now there is danger of going to another extreme and attributing all painful conditions of the feet to weakened or strained arches.

Within the medical profession the recognition of the symptoms associated with weakened feet has, in recent years, stimulated a great amount of interest in the subject and at the same time has led to a more careful study of other pathological changes causing pain in the feet. Investigation has shown that there are pathological conditions which at times simulate stages in the flat foot series of disabilities and deformities. These pathological conditions may frequently be associated with weakened feet or in the end may lead to that disability but they are at all times distinct affections. One such condition is exostosis of the os calcis.

The first case of exostosis of the os calcis is said to have been reported by Kienbäch, reference to which can be found in an article by Selka.[1] Following Kienbäch's publication, exostosis of the os calcis has been described and discussed from time to time by various writers. A comparatively recent article, one which is very complete and which gives an extensive bibliography up to the time of publication, is by Sarrazin.[2] There have been several contributions to the subject since Sarrazin's article, notably articles by Bauman,[3] by Reclus,[4] by Springer,[5] and, what is probably the most recent article on the subject, by Griffith.[6]

Exostosis of the os calcis can be found in a fair percentage of patients complaining of foot troubles, thus Benke[7] found spurs sixteen times out of four hundred and twenty-three radiographs of feet taken on account of various foot troubles. In two hundred and fifty men and women who had not complained of foot trouble, he found bilateral spurs in one woman and two men. Probably, however, these were of the character of spurs such as may be found in the tendon Achilles (see fig. 1). These spurs are situated in the substance of the tendon, they cause no pain and are probably the result of osteo arthritic changes. In a study of ninety anatomical specimens Bradford[8] found a number of exostoses of the os calcis. Bauman and other writers state that the condition is most common in men between the ages of twenty and thirty, but it may be frequently found in women. The exostoses may be present at most any age. Whites are more affected than negroes. One or both heels may be affected.

To Illustrate Dr. Berry's Article on "Exostosis of the Os Calcis"

Albany Medical Annals, October, 1911



To Illustrate Dr. Berry's Article on "Exostosis of the Os Calcis"

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FIGURE 2

Numerous explanations have been given for the condition none of which are satisfactory for all cases. Some of the explanations are rather fanciful, thus, in an article by Reclus and Schwartz, abstracted in the *Boston Medical and Surgical Journal* for July 8, 1909, mention is made of the theory of Pfitzner, Dwight and others that the exostoses may sometimes represent fused embryonic survivals of certain supernumerary bones of the tarsus, such as the sustentaculi and calcaneum secondarium. Chrysospathes[9] believed that they were due to so-called skeletal variations, are all found in the epiphyseal line, and are due to a misplacement downward of the epiphysis of the os calcis. The epiphysis of the os calcis unites at from the fourteenth to the twenty-second year.

Bauman believes that the great majority of exostoses of the os calcis are due to a pathological process which begins as a periostitis. The spurs are formed at the insertion, or origin of muscles or tendons, and along their course, or at the epiphyseal line, these being the points of least resistance. What is back of the pathological process is hard to say. The Neisser organism has been found to be present in some of these cases. Baer[10] was one of the first to call attention to the relation between gonorrhoea and exostoses of the os calcis. In other cases many different cocci have been found including the streptococcus, the staphylococcus, etc. Arthritis deformans, influenza, tuberculosis, syphilis, rheumatism, gout, ossification of tendinous tissue and ossifying periostitis, have all been described as etiological factors in the causation of the spurs. Blenke thinks that an arteriosclerosis is the etiological factor. Paul Reclus thinks that the exostoses are but exaggerations of normal prominences; Mett[11] attributes many cases of painful feet to a mechanical cause, due to a shortening of the gastrocnemius muscle producing a non-deforming club foot. The plantar fascia gives way and periostitis, neuroma, ostitic growths and bursitis follow as complications.

Jacquet[12] thinks that the spurs develop in muscles subject to strain. Hurtodo[13] attributes the formation of the spurs to hard work in a standing position and Springer believes them to be frequently traumatic in origin either by direct injury of the bone or by a pull on the periosteum by muscles.

The common situation of the exostosis is on the internal tuberosity of the os calcis. The most satisfactory idea of the size and situation of the exostosis can be obtained by the use of the X-ray, which shows a bony spicule projecting forward from the region of the internal tuberosity parallel to the plantar fascia. There is usually evidence of a surrounding periostitis. Reclus states that the spicules are not formed like a thorn but are more nearly chisel shaped. Specimens that have been obtained at operation shows the exostosis to be composed of an osteoarthritic like deposit of bone. Various organisms including the gonococcus, streptococcus, staphylococcus, etc., have at times been found in the growth.

The symptoms of exostosis of the os calcis are characteristically distinct. The patients complain of a pain in the heel, sometimes burning in character, sometimes described as a boring or sticking sensation. The heel is sensitive to pressure and in walking the patient throws his weight forward on the front part of the foot which in time leads to strain and irritation of the whole foot, and thus may give the appearance of ordinary weakened foot trouble. There may have been a previous history of gonorrhoea, influenza or other infection. There may be a history of long continued strain or pressure on the feet, or there may be a history of trauma.

Examination shows the heel and plantar fascia tender to pressure with a point of greatest tenderness directly over the internal tuberosity of the os calcis.

This definite point of greatest tenderness, together with the history and other symptoms, is almost pathonomonic of the condition, but an X-ray picture will absolutely confirm or disprove the diagnosis.

Rational treatment consists in the operative removal of the exostosis, although in mild cases, if there is any objection to an operation, a specially constructed brace to relieve pressure over the sensitive point may be tried.

Some operators use a linear incision directly over the exostosis, retracting the tissues and removing the growth with Rongeur forceps and bone curette. Other operators make a U-shaped incision around the heel and retract the tissues on the under surface of the heel forward. This incision allows a perfect exposure of the point of operation and the resulting scar is in

no danger of being irritated when the patient begins to use the foot. The writer has found no record of recurrence of the trouble after operative treatment, although it has sometimes been necessary to further treat the weakened and strained condition of the foot, caused by faulty attitudes which were assumed by the patient to relieve his tender heel.

In an experience with 350 cases of various weakened feet troubles (130 males, 220 females) the writer has seen four cases of exostosis of the os calcis. All four cases were men between thirty and fifty years of age.

In one case there was no definite etiological factor other than long continued work, standing on hard floors. In this case the trouble was present in both feet. In the second case the exostosis, developed on one heel directly after an attack of gonorrhoea. In the third case the patient dates the onset of his trouble from an injury caused by trying to break a stick of wood by stamping on it with his heel. In the fourth case the trouble developed on both heels following a short "run of fever" diagnosis unknown, probably typhoid or influenza.

The symptoms were characteristic in all four cases. Tenderness and pain in the heel on weight bearing: the pain varying from a dull ache after use of the feet to sharp sticking pains when weight was put on the heel. There was a tendency to walk on the ball of the foot.

On examination there was evidence of weakened and strained feet from faulty attitudes and weight bearing. The heel and plantar fascia was tender on pressure with a point of greatest tenderness over the internal tuberosity of the os calcis.

The diagnosis was confirmed in each case by the use of the X-ray. Figure 2, which is a radiograph of the right foot of the fourth case, shows the characteristic X-ray finding: a thorn-like spicule in the region of the internal tuberosity of the os calcis, projecting forward parallel to the plantar fascia.

All four patients were operated upon and the exostoses removed. The U-shaped incision was used and the growth removed by Rougeur forceps and bone curette. In each of the cases the exostosis was found to lie directly under the attachment of the plantar fascia to the internal tuberosity, but it was not necessary to cut the attachment of the fascia in removing

the growth. The incision was closed with catgut without drainage, and the patient allowed to bear weight on the foot after two weeks. The results have been excellent.

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Clinical and Pathological Notes

New Theory of the Origin of Papillitis (Choked Disc). By Dr. MED. JOSEF WINDBIEL, Amsterdam, N. Y., Volontär-Assistent, University Eyeclinic of Göttingen.

At a meeting of the medical association of Göttingen held on December 2, 1909, at which I had occasion to be present, Professor Schieck, Oberarzt, at the University Eye-Clinic, gave a new explanation of the origin or causation of papillitis (choked disc), which to me seems to be deserving of careful consideration. The theory is based on the pathologic and anatomical examination of fresh cases of papillitis, in which the posterior bulb section including the Opticus was examined, through serial cuts or sections, thereby showing that the inflammatory theory (Leber-Deutschmann) cannot possibly be right.

All fresh specimens showed signs of oedema at the distal end of the optic nerve but not the least evidence of an inflammation either in the optic nerve itself or in its sheaths.

Neither can the Schmidt-Manz lymphspace theory solve the causation of "choked disc," because the fluid in the vaginal space was found to be too little to cause a pressure on the nerve and a strangulation of the bloodvessels.

Much less credibility has Deyl's theory of the compression of the central vein within the intervaginal space; and also that of Knape with regard to compression of the vein in its course through the oedematous dural sheath, since at both points the vein was found wide open. On the other hand a very noticeable widening of the perivascular lymph channels in the axial strand was found in every case. This fact, Schieck, demonstrated clearly by a large collection of micro-photographs.

This filling of the perivascular lymph spaces reached in some cases such a proportion, that the pressure in the connective tissue of the axial strand caused an exudation between the inner and outer covering of the vein walls and thereby caused a bulging forth of the intima; also examination of serial sections in all cases showed a considerable diminution in the caliber of the central vein; which at certain places was found to be of different width; particularly longitudinal sections showed very plainly the considerable differences in the size of the lumen. Furthermore in a totally new specimen, the presence of an opaque, coagulated fluid in the enlarged lymph spaces was apparent. At the beginning of stauungs-papille (choked disc) the oedema or respectively the saturation with stagnant lymph is solely restricted to the axial strand. From there the oedema proceeds through the lamina cribrosa to the hilus of the papilla on the one hand, on the other spreads out vertically across the optic nerve itself.

Inflammatory signs are not seen until a later stage, and are caused by the resorption of the decomposed nerve material and also the stagnant lymph.

The origin of papillitis according to Schieck is as follows:

As Gifford and Levinsohn have proved, the posterior vitreous lymph is led off in the perivascular lymph spaces of the central bloodvessels, in the axial strand. This fluid stream meets the one that flows away from the brain, down along the optical sheaths at a point where the axial strand enters into the subarachnoid space together with the central bloodvessels. Both fluid streams are then led outward, through the perivascular sheaths of the central bloodvessels, which pierce the dura from the intervaginal space. As soon as an increase of intracranial pressure, produces even, a slight increase in the fluid pressure in the subarachnoid space; the vitreous lymph is prevented from

leaving the axial strand. But this does not occur (as Levinsohn supposes) through the inflammatory influence of the pathologically modified cerebro-spinal fluid from the cerebral disease, followed by a congestion of perivascular lymph spaces of the axial strand; but on the contrary purely physically through overpressure in the intervaginal space which makes impossible the outflow of lymph from the lymph channels into the space.

The lymph which has been accumulating more and more in the axial strand leads to a considerable enlargement of the perivascular spaces and finally to oedema of the axial strand. From here out the infiltration progresses with great rapidity over the whole cross-sction of the distal end of the optic nerve.

At the same time through ectasia of the lymph spaces a mechanical compression of the bloodvessels in the axial strand results and finally an exfoliation of the intima due to pressure from the transudate between the coverings of the bloodvessels. Because of this, the lumen of the central bloodvessels are greatly diminished.

In the ophthalmoscopic picture the lymph stasis appear in the vicinity of the central bloodvessels, as oedema of the papilla; and the compression of the bloodvessels, as venous stasis, combined with hemorrhages. In some cases, the one, in others, the other phenomenon is first visible.

The proof of the new theory which seems thoroughly plausible and which explains in a simple manner all the clinical as well as the pathologic-anatomical symptoms will be published in detail by Schieck in a paper which will soon be published by Bergmann-Wiesbaden.

High Frequency Electricity in the Treatment of Herpes Zoster.
By William G. Lewi, M. D.

Herpes Zoster or Shingles is a disease that has resisted our efforts most persistently, the best that we have been able to do in most cases being to relieve the intense pain by the use of Morphine or other narcotics or by the use of some sedative ointment, which latter procedure is at the best of little avail. It will therefore be of interest, I hope, to record the results

of treating this disease with the High Frequency Current, inasmuch as the results in all the cases treated have been so uniformly good and so very much better and more satisfactory than with any other form of treatment that has ever been brought to my attention.

In two of the cases treated the visible lesions extended from the median line in front to the spine and involved the space, respectively, between three and four ribs. In the other three cases there was less involvement, but in all we had the characteristic lesions and symptom of localized pain.

In the severer cases the patients were treated twice daily for the first few days; in the other cases but one treatment a day was given.

Treatment with a vacuum electrode or with a glass conductor-filled electrode was given directly over the site of the lesions and continued until an intense hyperaemia was produced, the length of the treatment depending on the extent of surface to be treated and the idiosyncrasy of the patient. The presence of the blebs was not allowed to interfere with the treatment as I consider it more important to produce an intense hyperaemia directly over the lesion than to keep the blebs intact. Our energy in giving the treatment was justified and rewarded by the results. In from two to three days the patients were able to sleep without any narcotic or other medication and in all the cases, after six days the pain had entirely disappeared.

In view of the fact that many authorities are agreed that Herpes Zoster is due to an irritation of the nerve or nerves at the point of their leaving the spinal cord, it is of especial interest that the treatments in all the cases were given and the hyperaemia produced along the course of the nerves involved, directly over the visible lesion, with the satisfactory results noted.

As far as I have been able to learn there was no remaining pain excepting in one case where a slight neuralgic pain persisted for some weeks but of so mild a nature that the patient did not deem it worthy of attention. The ages of the patients treated ranged from thirteen to sixty.

Editorial

"All I have to put you in mind of now, is, that you get your ear dressed, for you lose a deal of blood; and by good luck I have here some lint and a little white salve in my wallet" "How needless would all this have been.," cried Don Quixote, "had I but bethought myself of making a small bottleful of the balsam of fierabras, a single drop of which would have spared us a great deal of time and medicaments." "What is that same balsam, if it please you?" cried Sancho. "A balsam," answered Don Quixote, "of which I have the receipt in my head; he that hath some of it may defy death itself, and dally with all manner of wounds: therefore, when I have made some of it, and given it thee, if at any time thou happenest to see my body cut in two, by some unlucky back-stroke, as it is common among us knights-errant, thou hast no more to do but to take up nicely that half of me which is fallen to the ground, and clap it exactly to the other half on the saddle, before the blood is congealed, always taking care to lay it just in its proper place: then thou shalt give me two drops of that balsam, and thou shalt immediately see me become whole and sound as an apple." "If this be true," quoth Sancho, "I will quit you of your promise about the island this minute of an hour, and will have nothing of your worship for what service I have done, and am to do you but the receipt of that same balsam; for I dare say, let me go wherever I will; it will be sure to yield me three good reals an ounce; and thus I shall make shift to pick a pretty good livelihood out of it. But stay though," continued he, "does the making stand your worship in much, sir?" "Three quarts of it," replied Don Quixote, "may be made for three reals." "Body of me," cried Sancho, "why do not you make some out of hand, and teach me how to make it?" "Say no more, friend Sancho," returned Don Quixote: "I intend to teach thee much greater secrets, and design thee much nobler rewards; but in the meantime, dress my ear for it pains me more than I could wish."

Don Quixote. CERVANTES.

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Dr. Wiley, The Pure Food and Drugs Act, and Solicitor McCabe.

If a careful search were made it might be possible, although we very much doubt it, to find recorded a more foolish and ridiculous yet systematic attempt to discredit and ruin an honest and capable public servant than has been made in the case of Dr. Wiley.

Ever since the passage of the Pure Food and Drugs Act on

January 30th, 1906, and the endeavor, often fruitless, of Dr. Wiley to have that act, for which he was largely responsible, impartially enforced, there has been a persistent and determined effort on the part of certain manufacturers of adulterated or misbranded foods and drugs to "get Dr. Wiley," culminating in the charges made by the so-called committee on personnel, really Solicitor McCabe.

We have neither time nor space to mention here the many triumphs of Dr. Wiley in bitter fights nor of the number of fake "cures," poisoned "drinks," adulterated foods, misbranded and short-weight packages which are no longer to be found on the market because of his activities, interesting as such mention might be, and we cannot describe in full the methods used to hamper him in the administration of the law, but a few illustrations of the latter are quite wise and proper.

The most noteworthy is the creation of what has come to be known as the referee board which was brought into being shortly after, and it is said because Dr. Wiley had decided as the result of a long series of experiments that sodium benzoate should be deemed an adulteration when added to food as a preservative. To this board must be referred for approval all decisions of the Bureau of Chemistry of the Department of Agriculture in regard to adulterations, misbranding, etc., before they become operative, and until such time as it renders a *final* decision, Secretary of Agriculture Wilson has given permission for the use in foods not only of sodium benzoate but other chemicals, such as sulphate of copper and saccharin. Judging by the time taken in the sodium benzoate case, which, by-the-way has not as yet, after several years, been finally disposed of, such decisions will not be rendered until there has been made such radical change in the department as President Taft has intimated he will make.

Next comes the assault on Dr. Wiley by the "Advertisers' Protective Association," which is well described in part in the *Journal of the American Medical Association* of June 10th, 1911, as follows:

> Probably every newspaper and magazine in the United States has received, within the last week or ten days, a circular letter from an organization calling itself the "Advertisers' Protective Association" or, more briefly, the "A. P. A." No office address is given, but merely a post-office box number in New York City. The secretary of this asso-

ciation is Frederick W. Hooper, who asserts that this organization "is composed of manufacturers of foods, beverages and drugs, representing an investment of $400,000,000, whose advertising expenses are annually over $100,000,000." The circular letter is addressed "Dear Mr. Editor," and the opening paragraph reads:

"During the past five years, the Bureau of Chemistry of the Department of Agriculture, has made a number of very vicious and uncalled-for assaults on foods, beverages and drugs, greatly to their injury, as well as *damaging to the Press which has been carrying the advertising contracts in these lines.* Many publications have, no doubt, felt the effect of these assaults *by a reduction in amount of advertising patronage from the manufacturers of* foods, beverages and *patent medicines.* We are, therefore, presenting the following facts, to show why the earning power of your publication has been, or will be, diminished in these lines, unless these attacks are stopped." [Italics ours.—Ed.]

Then follows a scurrilous attack on Dr. Wiley, chief of the Bureau of Chemistry, because of his activity in repressing frauds in foods and drugs. The implication is made that Dr. Wiley was rewarded by the Kentucky whiskey distillers because he fought the vile concoctions that are frequently sold as whisky; that he got some material benefit from Heinz, the pickle manufacturer, for his attitude against the use of sodium benzoate and, finally, that "in the fight on proprietary medicines, the American Medical Association, better known as the 'Doctors' Trust,' furnishes the sinews of war." The Advertisers' Protective Association tells the papers:

"If this condition of affairs is not changed, *it will result in greatly cutting down the support you receive from the manufacturers of* almost numberless Foods, Beverages and *Proprietary or Patent Medicines,* and the question presents itself: Will you and your influential paper stand for such a condition? We think not!" [Italics again ours.—Ed.]

The papers are then instructed: first, to bring pressure to bear on the Secretary of Agriculture and their congressmen and senators to curb the activities of the Bureau of Chemistry; second, "to take the matter up in the editorial columns" of their papers and show how Dr. Wiley is "squandering" the people's money "to advance the interests of * * * his particular friends." The letter closes by again urging the papers "to let your senators and your congressmen know your attitude in this matter," and it promises that if this is done "you will be rewarded * * * by an improvement in your [advertising?] business."

Lastly comes a specific charge made by the committee on personnel (really Solicitor McCabe) to Secretary Wilson in which, says President Taft, to whom Mr. Wilson referred the matter, "The nub of the charge by the personnel board was that Dr. Wiley, Dr. Kebler, Dr. Bigelow, and Dr. Rusby, in effect conspired to put on record a contract for a general employment of Dr. Rusby's services for $1,600 a year, but actually

and secretly made a contract with him by which he was only to do enough work during the year for the $1,600 to secure him a compensation of $20 a day and that this was done in deliberate and defiant violation of the law." Mr. Taft asked Attorney-General Wickersham to give him his opinion and he (Mr. Wickersham) not only confirmed the charges but recommended Dr. Wiley to "condign punishment," *i. e.*, that Dr. Wiley, Dr. Bigelow and Dr. Rusby be dismissed and that Dr. Kebler be reprimanded and reduced in rank. A committee of Congress has since investigated the matter and the President has carefully gone all over the facts in the case. The committee has not yet announced its decision, but Mr. Taft, in a letter to Secretary Wilson, completely exonerates Dr. Wiley in every particular, after which he says: "The truth is, the limitations upon bureau chiefs and heads of departments to exact *per diem* compensation for the employment of experts in such cases as this is a doubtful legislative policy. Here is the pure food act, which it is of the highest importance to enforce and in respect to which the interests opposed to its enforcement are likely to have all the money at their command needed to secure the most effective expert evidence."

"The Government ought not to be at a disadvantage in this regard and one cannot withhold one's sympathy with an earnest effort by Dr. Wiley to pay proper compensation and secure expert assistance in the enforcement of so important a statute."

The evidence given before the committee of Congress showed not only that Dr. Wiley had no knowledge of any such arrangement as was charged, that the letter upon which the charges were based was never sent, but that Solicitor McCabe knew such to be the case, that he had deliberately and intentionally falsified the decisions of the Bureau of Chemistry for the benefit of certain individuals, that he had purposely omitted from the bulletins of the bureau portions of a decision of the court in order that it might be less drastic, that he had prevented Dr. Wiley from going to court to testify in cases brought by state boards of health or from conferring with district attorneys about department work, in fact that he had lost no opportunity to prevent the enforcement of the pure food and drugs act and to hamper, mortify and degrade Dr. Wiley in the execution of

his work, all of which lead up to the charges upon which the recommendation for the removal of Dr. Wiley depended.

To the credit of the press of the United States it may be said that with but one or two exceptions outside of interested trade journals, it has been strong in its condemnation of Solicitor McCabe and the methods employed by him and even stronger in its commendation of Dr. Wiley.

"Solicitor McCabe," says *Current Literature* in its issue for September, "is the 'magerful Tam' of the play. He it is who has framed the rulings by which Dr. Wiley has been checked in his activities and by which McCabe's own powers have been augmented to a surprising degree. He is a young man who found the lawn tennis court at the White House a path to preferment and fame. He is quite a crony of Secretary Wilson's son, and ten years ago he was attending a night law school in Washington."

The New York *Evening Post* asserts that "It has been a notorious fact in Washington for two years that control over the department of agriculture was gradually slipping from the grasp of the secretary of agriculture, James Wilson, and being usurped by Solicitor McCabe."

Dr. Wiley is to be congratulated upon his complete vindication and the country at large should be thankful that in this age of hysteria so serious a matter as this was in the hands of as sane and honest a man as Mr. Taft.

SPENCER L. DAWES.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH, ALBANY, N. Y.
ABSTRACT OF VITAL STATISTICS, AUGUST, 1911.
Deaths.

Consumption	18
Typhoid fever	2
Scarlet fever	1
Measles	0
Whooping-cough	0
Diphtheria and croup	3
Grippe	0
Diarrheal diseases	13
Pneumonia	4

Broncho-pneumonia	1
Bright's disease	17
Apoplexy	8
Cancer	8
Accidents and violence	7
Deaths over 70 years	28
Deaths under 1 year	25
Total deaths	145
Death rate	17.06
Death rate less non-residents	15.18

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	12	6
Albany Orphan Asylum	0	0
Child's Hospital	0	0
County House	0	3
Dominican Convent	1	0
Homeopathic Hospital	2	2
Hospital for Incurables	0	0
Little Sisters of the Poor	3	0
Home for the Aged	0	0
Public places	0	0
Penitentiary	0	0
St. Margaret's House	3	0
St. Peter's Hospital	8	3
Austin Maternity Hospital	0	0
Albany Hospital, Tuberculosis Pavilion	3	0
Confederation of Labor	0	0
Totals	32	14
Births		139
Still births		7

Bureau of Plumbing, Drainage and Ventilation.

In the Bureau of Plumbing, Drainage and Ventilation, there were one hundred ninety-five inspections made of which eighty-five were of old houses and one hundred ten of new houses. There were sixty-two iron drains laid, thirty-six connections to street sewers, thirty-seven tile drains, one urinal, seventy cesspools, ninety wash basins, one hundred five sinks, eighty-two bath tubs, eighty washtrays, two trap hoppers, and one hundred thirty-two tank closets. There were one hundred fifty-two permits issued of which one hundred twenty-three were for plumbing and twenty-nine for building purposes. There were twenty-eight plans submitted of which five were for old buildings and twenty-three for new buildings. Seventy-four houses were tested, two with

blue or red, three with peppermint and there were sixty-nine water tests. Sixteen houses were examined on complaint and forty-four were re-examined. Ten complaints were found to be valid and six without cause.

Bureau of Contagious Disease.

Cases Reported.

Typhoid fever	13
Scarlet fever	2
Diphtheria and croup	15
Chickenpox	0
Measles	0
Whooping-cough	0
Consumption	20
Total	50

Contagious Disease in Relation to Public Schools.

None reported.

Number of days quarantine for diphtheria:

Longest..... 20 Shortest..... 7 Average..... 13 3/7

Number of days quarantine for scarlet fever:

Longest..... 44 Shortest..... 32 Average..... 39 1/3

Fumigations:

Houses	30	Rooms	113

Cases of diphtheria reported	15
Cases of diphtheria in which antitoxin was used	15
Deaths after use of antitoxin	4

Bender Laboratory Report on Tuberculosis.

Positive	6
Negative	6
Failed	0
Total	12

Tuberculosis.

Living cases on record August 1, 1911			363
By telephone	0		
By Bender	0		
By card	12		
		12	
Dead cases by certificate		7	
			19
			382

Dead cases previously reported	11	
Dead cases not previously reported	7	
Duplicates	0	
Recovered	1	
Removed	2	
Unaccounted for	0	
		21
Living cases on record Sept. 1, 1911		361
Total tuberculosis death certificates filed during August, 1911		18
Out of town cases dying in Albany		0
Net city tuberculosis deaths		18

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	1
Initial negative	21
Release positive	3
Release negative	7
Failed	20
Total	52
Test of sputum for tuberculosis:	
Initial positive	10
Initial negative	7
Failed	1
Total	18

BUREAU OF MARKETS AND MILK.

Market reinspections	117
Public market inspections	28
Fish market inspections	7
Fish market inspections	7
Fish peddler inspections	4
Rendering establishment inspections	3
Slaughter house inspections	4
Hide house inspections	3
Milk wagons in clean condition	12
Butter fats below 3%	0
Butter fats from 3 to 3.5%	4
Butter fats from 3.5 to 4%	8
Butter fats over 4%	0
Solids under 12%	0
Solids from 12 to 12.5%	4
Solids from 12.5 to 13%	3
Solids over 13%	5

1 carcass of veal destroyed.

Miscellaneous.

Mercantile certificates issued to children	11
Factory certificates issued to children	18
Children's birth records on file	29
Number of written complaints of nuisances	52
Privy vaults	5
Closets	3
Plumbing	15
Other miscellaneous complaints	29
Cases assigned to health physicians	73
Calls made	157

Society Proceedings

Medical Society of the County of Albany.

Memorial Meeting—Thomas M. Trego, M. D.

A special meeting of the Medical Society of the County of Albany was held in the Chemistry Room, Albany Medical College, February 18, 1911, at 5 P. M.

There were present Drs. Gutmann, Curtis, Blatner, Van Slyke, Rooney and Hinman.

Dr. Gutmann announced that the Society was called together for the purpose of expressing its sense of loss in the death of Dr. Thomas M. Trego, who died February 15, 1911. Remarks relative to the life and death of Dr. Trego were made by all present.

Dr. Curtis offered the following resolution, which was adopted, ordered spread in full upon the minutes and a copy sent to the family and published:

Resolved, That this Society place on record its appreciation of the long and valuable life in our profession here in Albany of Dr. Thomas Markley Trego, who died February 15th, 1911, at the age of 64, and of the service he has rendered in his work in the medical institutions of this city and in the general work of a practitioner of medicine.

Of good ancestry from lines back to those who came to America with William Penn and of Holland blood; a graduate from Rutgers and in 1874 from the College of Physicians and Surgeons; for a time physician to St. Peter's Hospital and long on the medical staff of the Child's Hospital; he had the equipment and opportunities for good service and has rendered it.

We have always highly regarded his kindly presence and cheerful optimism, his helpful counsel, his constant regard for the best interests of the hospitals with which he has been connected, his loyalty to the best purposes of the profession of medicine.

We shall sincerely mourn his departure from our association as we miss him from among us, and will cherish the memory of one who has been a good companion and a helpful friend.

The President appointed Drs. Curtis, Rooney and Van Slyke a committee on memorial.

Society adjourned.

JOHN H. GUTMANN, *President.*

E. E. HINMAN, *Secretary Pro Tem.*

A regular meeting of the Medical Society of the County of Albany was held on Tuesday, February 28th, 1911, at the Supreme Court Chambers in the City Hall. About eighty members of the Society and invited guests were present. Dr. Charles Stover, of Amsterdam, President of the Medical Society of the State of New York presented the first paper of the evening, entitled "The Cause of Pain in Angina Pectoris." He was followed by Dr. Thomas Ordway, Director of the Bender Hygienic Laboratory, who presented the pathological aspect of the condition under discussion. Following these papers, Dr. Daniel N. Eisendrath, of Chicago, read a paper entitled "The Diagnosis and Treatment of Renal and Ureteral Calculi," accompanying his paper with numerous lantern slides of X-ray plates.

In opening the discussion on the papers of Drs. Stover and Ordway, Dr. Jenkins spoke of the work of McKenzie of London on this subject, and presented a speciment of a coronary artery completely occluded, taken from a man who died in his first attack of angina.

Dr. WARD: I have a theory of my own on this subject. In the popliteal artery we have a portion of the circulatory apparatus where it is very difficult to establish collateral circulation. Sudden and complete occlusion of this artery causes intense pain. The cause of this is probably due to the production of a sudden and complete muscular anaemia. This is in line with Weir Mitchell's dictum, "Neuralgia is the cry of the nerves for better nutrition." By inference we may say that the pain of angina pectoris is due, in part at least, to a sudden muscular anaemia.

Dr. MACFARLANE: I do not believe that we should regard angina as a definite pathological entity. Many things may cause symptoms similar to those of angina pectoris. Again, we find many contradictions in the condition itself; in some cases we find high blood pressure, and in some low blood pressure; some cases are arterio sclerotic, others are not; some respond well to nitroglycerine, and with others digitalis is more efficient. We must remember always that the severity of the pain does not necessarily furnish an accurate index of the extent of the lesion.

Dr. NEUMAN: Angina pectoris is a symptom complex which may or may not rest on an anatomic basis. Some cases may be intra-cardiac, and some extra cardiac. The toxic element often plays a leading part. In one case of paroxysmal tachycardia we obtained tracings of the jugular pulse and demonstrated that the rhythm between the auricular and ventricular pulse was in that case destroyed. I am inclined to agree with McKenzie

that the pain is due to a change in contractility. In one case, in which Dr. George Blumer did the autopsy, we found no changes in the heart at all.

Dr. Blair: Allan Burn in 1805 called attention to ischaemia of the heart muscle, thus antedating Dr. Ward's observation by a few years. Nothnagel used hot baths instead of vaso-dilators, believing that he got prompter action. Lander Brunton, in 1867, was the first man to apply vaso-dilators to this condition.

Dr. C. W. L. Hacker: Pain in the region of the heart does not necessarily mean heart disease. When this symptom presents, we should never neglect to examine the abdomen.

In the discussion of Dr. Eisendrath's paper, Dr. Holding said: The severity of the symptoms do not always determine the diagnosis of calculi. It is often true that the larger the calculus the less typical are the symptoms and vice versa. I wish to emphasize what has already been said in regard to the preparation of the patient. Dr. Eisendrath has recommended purging for 24 to 48 hours. Cole of New York advocates a 72-hour preparation. It is impossible to give an accurate opinion of an X-ray taken of an improperly prepared patient. This question of adequate preparation has done much toward changing the attitude of the profession toward the ability of the operator to locate stones by the X-ray. Six or seven years ago scepticism was the rule, but to-day more confidence is felt.

Dr. J. N. Vander Veer: The necessity of thorough preparation cannot be over-emphasized. We must take more time with our patients, and keep them in the hospital for a week if necessary. A complete picture should be taken, covering both kidneys as well as the bladder. I think that castor oil followed by enemata is a better technique to follow than one in which salts play a part, as salts often produce gas and may cause shadows.

Dr. Eisendrath: Although agreeing fully with what has been said as to the necessity of adequate preparation of the patient, I purposely avoided the technical side of the question because I felt that it was more important for the general man to know when to look for stones than how to find them. Many cases of obscure fever can be traced to kidney lesions, and we should be increasingly more careful to include this in our search for the underlying cause of puzzling symptoms.

Dr. Ward moved that the Society extend a vote of thanks to the speakers of the evening for their highly interesting and instructive papers, which was done.

The President announced that an informal reception and smoker would be held at the Albany Club and the meeting then adjourned.

John H. Gutmann, *President.*

Erastus Corning, *Secretary.*

A regular meeting of the Medical Society of the County of Albany was held at the Albany Medical College on the evening of Wednesday, March 22d, 1911.

The following members were present: Drs. Bedell, Blatner, L. S., Bernstein, Blatner, Sr., Canaday, Sr., Canaday, Jr., Corning, Carroll, Classen,

Conway, Cook, Doescher, De Voe, Douglas, Draper, Gutmann, Griffen, George, Holding, Jenkins, Lanahan, LeBrun, Lomax, Moore, C. H., Neuman, Rooney, Rulison, Vander Veer, E. A., Vander Veer, J. N., Ward, S. B.

The minutes of the last meeting were read and approved. The Secretary announced that the Board of Censors had reported favorably on the name of Dr. J. J. A. Lyons for membership. Dr. J. N. Vander Veer moved that the Secretary be instructed to cast one ballot for Dr. Lyons, which was done, and Dr. Lyons was declared elected. The President announced that nominations were in order for a Delegate to the State Society to fill the vacancy created by the death of Dr. Willis G. Macdonald.

Dr. Ward: Mr. President, Dr. Leo H. Neuman was previously elected by this Society to serve as delegate, but on learning that Dr. Macdonald desired to serve this year, he generously resigned in his favor. It seems to me that it would be only just to Dr. Neuman to recognize this, and I therefore nominate Dr. Leo H. Neuman.

Dr. Neuman's nomination was seconded by Dr. Classen, and Dr. Ward moved that if there were no other nominations the nominations be declared closed and the Secretary instructed to cast one ballot for Dr. Neuman. Passed.

The Secretary then read the following communication from Dr. John Van Doren Young, Secretary of the Medical Society of the County of New York.

The Medical Society of the County of New York,
New York, *January* 24, 1911.

Dr. Erastus Corning, *Secretary, Medical Society of the County of Albany, 281 State Street, Albany, N. Y.*

Dear Doctor.—At the stated meeting of the Medical Society of the County of New York, held at the New York Academy of Medicine, 17 West 43d Street, on Monday evening, January 23, 1911, the following preamble and resolutions were unanimously adopted, and I am directed by the Society, in accordance with said resolutions, to forward you a copy, together with the reasons for their adoption, as presented by the mover, Dr. Floyd M. Crandall:

Whereas, A communication has been received from the Medical Society of the County of Chemung, advocating the discontinuance of the Tri-State Medical Directory, and such communication has been sent to the other County Medical Societies of the State, be it

Resolved, That the Medical Society of the County of New York strongly disapproves of any effort to discontinue the said Directory and instructs its Delegates to the Medical Society of the State of New York to strenuously oppose any such effort.

Resolved, That a copy of these resolutions, together with the following reasons therefor, be sent to the Secretary of the various County Medical Societies of the State and to the officers and members of the House of Delegates:

Reasons

First.—The Directory is of supreme importance to the physicians of the cities which furnish an overwhelming majority of the membership of the State Society. New York County alone furnishes over 2,300 members, or one-third of the membership of the State Society, while the membership of the County Medical Societies of New York City, which include the counties of New York, Kings, Queens, Nassau and Richmond, is 3,374.

Second.—Abolishing the Directory would cause a loss of membership in the large cities, with a corresponding loss of income to the State Society, which would more than balance the expense of publication.

Third.—In addition to its local use, the employment of the Directory is reciprocal between city and country practitioners. The city physician uses it as a guide in referring patients to practitioners in the summer and at other times. The country practitioner uses it in the selection of consultants or operators when seeking a specialist. The physician of the summer-resort portions of the State may not be fully aware of the frequent use of the Directory made by city physicians in advising the tens of thousands of people who leave the cities during hot weather.

Fourth.—The Directory has proved to be the most efficient collector that can be employed by the large counties, as the members are anxious to appear in good standing. In the year 1909 there were but two per cent. of delinquencies in the whole State, a remarkable showing, due in large measure to the Directory. The star before a name is regarded as a badge of honor, and is no mean asset to a practitioner.

Fifth.—The Directory is regarded as authoritative by life insurance companies, boards of health, and certain business concerns, and is used by them in looking up qualified physicians in both city and country. In fact, certain companies have refused to appoint physicians whose names do not appear in the Directory.

Sixth.—The Directory is a most potent weapon against quackery. A registered list of physicians of the State is of the utmost importance. Such lists will not be kept in many counties unless some society makes it their business to see that the registration law is enforced. Experience shows that most county societies, as well as the county clerks and district attorneys, are absolutely negligent of their duty in this direction. The yearly requirements of the Directory result in the enforcement of this vital law. When the publication of the Directory was begun by the State Society, over 500 physicians were found to be practicing in the State who were not registered. The Directory has worked a revolution in this regard. The absence of the name of a practitioner from the Directory lists is now ample warrant for investigation as to his legal status.

Seventh.—Under modern methods of conducting the business of medical societies, where the society is of sufficient size to prevent the personal acquaintance of the officers with the membership, the Directory is an absolute necessity to them.

Eighth.—The expenses charged to the Directory may be misleading in some particulars. The State Society must keep extensive records and card indexes, at large annual expense, whether the Directory is published or

not. In other words, almost all the expensive data used in the Directory must be collected and made available, even if not printed. The expense of printing and distribution is, in a measure, counterbalanced by income from advertising and sales. The roster of the State Society would certainly have to be published annually at a considerable expense.

Ninth.—The County Medical Societies standing alone as *units* are with few exceptions bodies of but slight influence. Banded together, they make up a powerful organization, the benefits of which are shared by all the component parts. A spirit of fellowship and reciprocity should animate each unit, for the welfare of some must promote the welfare of all. The New York County Society believes that among the material benefits derived from our present organization, the Directory is one of the most important, and is convinced that its discontinuance would be a grave misfortune to the profession of New York State, even to those few physicians who may personally have but rare occasion to consult it. Its indirect value to every physician is great and cannot be measured by the number of times he opens it.

Trusting that the matter is of enough importance to be worthy of your earnest consideration, I beg to remain,

Yours very truly,

JOHN VAN DOREN YOUNG, *Secretary.*

Dr. NEUMAN: It seems to me that the Directory is of great value to us all. We all have occasion to use it from time to time, and if it were not published we would be under the necessity and expense of keeping a very considerable amount of information ourselves. As matters stand, we are under the same expense whether the Directory is published or not. I therefore move that it be the sense of this Society that the publication of the Directory be continued and that the Delegates be so instructed. Motion seconded by Dr. Ward and passed.

Dr. LEROY S. BLATNER opened the scientific program of the evening with a paper entitled "Mouth Breathing; its Relation to Dentistry," and was followed by Dr. J. W. CANADAY, whose subject was "A Consideration of Oral Hygiene."

In opening the discussion, Dr. J. W. Canaday, Jr., gave a brief resumé of the movement for better oral hygiene and gave statistics showing the rapid growth of this movement in the United States. He touched on the possibility of establishing such a movement in Albany, and closed by urging the necessity for systematic examination of school children.

Dr. HOLDING, after expressing his appreciation of the papers of the evening, showed some slides of radiographs illustrating abscess formation in unerupted teeth. He made the point that certain psychoses could often be relieved merely by straightening impacted teeth.

Dr. NEUMAN said that all movements for better oral hygiene had his unqualified approval. In his experience he felt that lack of attention to oral hygiene might be considered a factor in the production of pernicious anaemia.

Dr. Bedell referred to the relationship that often existed between eye lesions and abnormal conditions of the teeth through involvement of the fifth nerve. He moved a vote of thanks to the speakers of the evening, and said that he felt the Society should go on record as approving the movement for oral hygiene. Seconded and passed.

Dr. Jenkins spoke of his experiences in England last summer while working with Wright. One case of stomach trouble was cured by vaccines made from cultures from carious teeth. He was much struck by the poor condition of the teeth generally in that country.

Dr. Griffen asked whether hot tea or other hot drinks were harmful to the teeth.

Dr. Lomax referred to a case of Tic Douloureux resulting from an unerupted wisdom tooth.

Dr. Rooney spoke of the effect on the stomach of swallowing bacteria from carious teeth and said that he had noted that children with carious teeth were often diphtheria carriers.

Dr. J. N. Vander Veer related the previous unsuccessful attempts at establishing inspection of school children, and said that he was afraid that the dentists woul l meet with the same difficulties.

Dr. Blatner said that a movement having this in view had already been started in the State Dental Society.

Dr. Cook pointed out that the immediate results of dentistry were not always satisfactory to the patient and that he had often been called on to relieve patients after a visit to the dentist.

Dr. Carroll said that while in the north some years since he had been much impressed by the excellent condition of the Esquimaux teeth.

Dr. Canaday: In order that the patient should receive the greatest benefit from treatment, conditions in the associated cavities should always be investigated and such things as nasal obstructions, etc., removed. Tea, or other beverages consumed in large quantities lowers the appetite for solid food with the inevitable result that the teeth suffer from disuse and degenerate.

The meeting then adjourned.

John H. Gutmann, *President.*

Erastus Corning, *Secretary.*

A regular meeting of the Medical Society of the County of Albany was held in the rooms of the Historical and Art Society Building on the evening of Wednesday, April 12, 1911. The President, Dr. John H. Gutmann, was in the chair and about thirty members were present.

Dr. William L. Wallace, of Syracuse, N. Y., read the first paper on "Prostatic Troubles." He was followed by Dr. Charles O. Kepler, of Boston, Mass., whose paper was entitled "A Consideration of Complete Procidentia in the Nulliparous Woman, and its relation to mental defects."

Drs. A. Vander Veer, J. N. Vander Veer and S. B. Ward took part in the discussion that followed the reading of the papers, and at the close, the thanks of the Society were voted to the guests of the evening.

Dr. J. N. Vander Veer read the following resolution, which was adopted by the Society:

In the recent loss by fire of the Medical Library division of the great State Library, the members of the Medical Society of the County of Albany feel this loss perhaps more acutely than any other body of physicians in our Empire State, by reason of our having become accustomed to utilize the valuable knowledge there collected and so ably handled

It had become invaluable to students and physicians for its ease of reference in modern medicine, and from research workers throughout the State and the United States it had gained the highest praise.

Its scope was ever broadening, its methods of handling references and researches unsurpassed and its value to humanity expressed through the physicians cannot be calculated.

In view of these benefits of which we have been so suddenly deprived we would therefore urge the legislature to adopt such means as seem wise and feasible looking toward the speedy restoration of this branch of the State Library.

As there was no further business the meeting adjourned.

John H. Gutmann, *President.*

Erastus Corning, *Secretary.*

The annual meeting of the Medical Society of the County of Albany was held at the Albany Medical College on the evening of May 10, 1911.

There were present Drs. Bedell, A. J., Bendell, Sr., Craig, Conway, Cook, Curtis, Corning, De Voe, Draper, Gutmann, Grant, Herrick, Hacker, C. G., Hacker, C. W. L., Haswell, Holding, Houghton, Jenkins, Lomax, Lyons, Lanahan, Lawyer, Lipes, Meyers, Moore C. H., MacHarg, O'Leary, Jr., Pitts, Papen, Sr., Papen, Jr., Rooney, Rulison, Shaw, Traver, Vander Veer, A., Vander Veer, E. A., Van Loon, Ward, Washburn.

The minutes of the last meeting were read and approved.

Dr. Jenkins reported for the Comitia Minora that they had met from time to time during the year, had passed on the credentials of four candidates for election, and of three members transferred from other counties, and had examined the records in the County Clerk's office, finding that 16 physicians had registered in this county since the last annual meeting. It was moved and seconded that the report be approved as read. Passed.

Dr. George W. Papen, Jr., read the Treasurer's report.

Report of the Treasurer of the Medical Society of the County of Albany, May 11, 1910, to May 10, 1911.

Receipts

Balance on hand, May 11, 1910	$37 68
Dues collected	780 00
Extra assessment	140 00
Total	$957 68

Expenditures

Paid to State Medical Society	$498 00	
Printing—Wentworth	158 16	
American Association of Medical Milk Commission—dues	15 00	
Albany Medical Annals for printing of minutes	50 00	
Arthur Morrill—for janitor service, 1909-1910	8 00	
Stamps	22 50	
Rent of Historical and Art Society rooms	15 00	
Entertainment	109 34	
Refund to Dr. Colbert	1 00	
Check book	1 50	
Total		$878 50
Balance		$79 18

Respectfully submitted,
G. W. Papen, Jr.,
Treasurer.

The chair appointed Drs. Shaw and Herrick as an auditing committee.

The Secretary's report for the year was as follows:

Nine regular meetings and four memorial meetings have been held during the year.

Members on roll, 1910, 185.
Members died during year, 4.
Members suspended, 3.
Members resigned, 1.
Members elected, 4.
Transferred from other counties, 3.
Net decrease, 1.
Present membership, 184.
Four members died during the year:

Dr. Mark S. Leavy, Dr. Seth G. Shanks, Dr. Willis G. Macdonald, Dr. Thomas M. Trego.

Physicians registered in county since May, 1910, 16.
Not practicing, not registered, 25.
Not members of this Society, 75.
Total number of physicians in county, 282.

It was moved and seconded that the Secretary's report be approved as read. Passed.

Dr. Craig reported for the Committee on Public Health.

"The anti-vivisection and anti-vaccination bills have been successfully opposed in the Legislature and they are dead for this year. The present tuberculosis law is reasonably well carried out at the present time. The blame for imperfect registration lies with the individual physicians. However, the registration is steadily improving as the death reports are showing fewer names not previously reported. The milk and dairy questions are still pending."

Dr. A. VANDER VEER: I should like to draw the attention of the Committee on Public Health to the question of the house fly. It needs no statements on my part to convince any one of the increasing menace that this pest presents, and it is a matter that might well be taken in hand by this committee.

It was moved and seconded that the report of the Committee on Public Health be accepted. Passed.

Dr. SHAW reported for the Committee on Legislation.

"This committee, acting in co-operation with the state committee, opposed the bills hostile to animal experimentation, and as you have heard, the bills were defeated. I should like to report for Dr. Boyd concerning the work of the Milk Committee. This has been a year of active work. Examinations of milk have been made twice a month at the Bender Laboratory, and the excellent quality of the milk certified by this Society has been shown by the uniformly low bacterial counts. In addition, we have paid monthly visits, unannounced, to Mr. Stevens' Normanskill Farm. This is a truly model farm and may be classed as one of the best in the State. It would repay the members to make a visit of inspection."

Dr. CRAIG: I would like to ask Dr. Shaw whether the demand for certified milk is increasing or not?

Dr. SHAW: The consumption of certified milk has now risen to about one hundred and eighty quarts.

It was moved and seconded that the report be approved. Passed.

Dr. SHAW reported that the Auditing Committee had completed its inspection of the Treasurer's books, and had found them to be correct.

Dr. CURTIS moved that the report be accepted and the committee discharged with thanks. Passed.

Dr. JOHN GUTMANN then read the President's address, his subject being "Co-operation in Medicine.

Dr. JENKINS: In common with all present, I have listened with great pleasure to Dr. Gutmann's interesting and thoughtful paper. The dispensary evil has grown worse since my day as dispensary physician. In those days the patients were worth treating and were truly indigent. It is undoubtedly true, certainly of the Albany Hospital and South End Dispensaries, that to-day many of the patients are unworthy of receiving free treatment. It should be possible to differentiate between the man of very small means who is working hard to support a family and the plain bums who never lift a hand to help themselves. The visiting nurse and social service worker should find here a wide field of usefulness. In conclusion I wish to move a vote of thanks to the President for his address.

The motion was seconded by Dr. WARD and passed.

The President announced that nominations for officers for the ensuing year were in order.

Dr. WARD: I should like to nominate Dr. Arthur J. Bedell for the office of President. Seconded by Dr. ROONEY.

Dr. CURTIS: In whatever I say, I do not wish to be understood as implying anything against other nominees, but I feel that it is time that some one from Cohoes should head the ticket. It is many years since Dr.

Archambault filled the office so capably, and in nominating Dr. James H. Mitchell of Cohoes, I feel that in so doing I am suggesting the name of one whose ability and loyalty is unquestioned, an older man and one who represents an important section.

Dr. Ward: I would remind Dr. Curtis that Dr. Mitchell held the office of President some years ago.

Dr. Curtis withdrew his nomination.

Dr. Shaw moved that the nominations be closed.

Dr. Curtis moved that the Secretary be instructed to cast one ballot for Dr. Bedell. Seconded and passed.

The Secretary declared Dr. Bedell elected.

For Vice-President, Dr. Conway nominated Dr. C. W. L. Hacker; Dr. C. G. Hacker nominated Dr. Keough of Cohoes, and Dr. O'Leary nominated Dr. McGarrahan of Cohoes. Dr. Hacker withdrew his name and Dr. Matthew I. Keough, of Cohoes, was elected.

For Secretary, Dr. Lomax nominated Dr. Draper; Dr. Shaw nominated Dr. Corning, and Dr. Rooney nominated Dr. Lawyer. Dr. Lawyer and Dr. Corning withdrew their names, and Dr. Shaw moved that the Secretary be instructed to cast one ballot for Dr. Edwin L. Draper, which was done.

For Treasurer, Dr. Lanahan nominated Dr. George W. Papen, Jr. Dr. Shaw seconded the nomination, commending the work that Dr. Papen had done this year. Dr. Ward moved that the nominations be closed and that the Secretary be instructed to cast one ballot for Dr. Papen. Carried.

For the Board of Censors, Dr. Curtis nominated Dr. Archibold, of Cohoes; Dr. Lanahan nominated Dr. Gutmann; Dr. Ward nominated Dr. Jenkins; Dr. Rooney nominated Dr. C. H. Moore; Dr. Haswell nominated Dr. Lanahan. Dr. Shaw moved that the nominations be closed and that the Secretary be instructed to cast one ballot for the five nominees. The motion was carried, and the Secretary announced that the Board of Censors for the ensuing year would consist of Drs. Archibold, Gutmann, Jenkins, C. H. Moore and Lanahan.

For Delegates to the Third District Branch, Dr. Conway nominated Dr. Rooney and Dr. A Vander Veer nominated Dr. Curtis. Dr. O'Leary moved that the nominations be closed and the Secretary instructed to cast one ballot for Dr. Rooney and Dr. Curtis. Passed.

Dr. A. Vander Veer: On the eighteenth of this month Dr. J. N. McCormack will speak before the County Society. I have heard Dr. McCormack speak and he is an emphatic and forceful speaker. He is a man of good address and pleasant to meet socially. It will repay well any one who goes, and there should be a large attendance.

Dr. Shaw: The burning of the State Library has hit no one harder than the physicians. Many of us are seriously inconvenienced by inability to get at the current periodicals. These journals are coming in all the time, but there is at present no place where they are available. I would move that the Secretary write to Mr. Wyer and ask if it would be possible to arrange a room where the current journals would be accessible to the profession.

Dr. A. VANDER VEER: In seconding the motion I would like to say that the matter has been under consideration already, and that a room on the fourth floor of 162 State St. has been suggested. Motion carried.

Dr. LANAHAN: I desire to offer the following proposed amendment to the by-laws. I ask that the Secretary be instructed to submit a copy of this to the House of Delegates of the State Society and that the amendment, if approved by them, be voted on at the next annual meeting:

WHEREAS, Chapter 2, Section 1, of the General By-Laws makes ineligible for membership physicians whose affiliation is desirable by the Society,

Resolved, That Section 2 be amended to read:

Directors and Assistant Directors of regularly instituted Laboratories, Medical Superintendents of Hospitals, Medical Officers of State Institutions, and Medical Officers of the United States Army, Navy, and Public Health Service, are eligible to membership.

Dr. CURTIS: Why not accomplish the same result by placing them on our mailing list and inviting them each time to sit with us instead of adopting this roundabout method?

Dr. LANAHAN: There are some who desire full membership, but if all could be accommodated by Dr. Curtis' scheme, that would undoubtedly be best.

It was voted to submit the amendment to the House of Delegates.

Dr. C. W. L. HACKER: It seems to me that the program of the Society would be bettered if more clinical cases were shown. I have attended meetings of other societies where this was done and it has proved successful. Interesting cases are shown, new instruments exhibited, and I think that it would result in bringing out more men—young and old—and ex-Presidents.

Dr. SHAW: A motion on this subject does not seem necessary. It is a matter that would properly come under the consideration of the officers-elect and they will doubtless give it due attention.

The meeting then adjourned.

JOHN H. GUTMANN, *President.*

ERASTUS CORNING, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

ALBANY MEDICAL COLLEGE.—The introductory lecture of the eighty-first session of the Albany Medical College was delivered by Professor Hermon C. Gordinier, M. D., in the amphitheatre of the college on Tuesday, Sept. 19, 1911, at 12 M.

THE ALBANY GUILD FOR THE CARE OF THE SICK—DEPARTMENT OF VISITING NURSING—STATISTICS FOR AUGUST, 1911.—Number of new cases, 170; classified as follows: Dispensary patients receiving home care, 31; district cases reported by health physicians, 8; charity cases reported by other physicians, 59; moderate income patients, 56; metropolitan

patients, 16; old cases still under treatment, 113; total number of cases under nursing care during month, 283. Classification of diseases for the new cases: Medical, 57; surgical, 3; gynecological, 3; obstetrical under professional care, mothers, 38; infants, 39; eye and ear, 2; skin, 0; throat and nose, 0; dental, 0; infectious diseases in the medical list, 10; infectious diseases in the surgical list, 0. Disposition: Removed to hospitals, 3; deaths, 9; discharged cured, 129; discharged improved, 3; discharged unimproved, 7; number of patients still remaining under care, 132.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; number of students in attendance, 4; number of nurses in attendance, 5; number of patients carried over from last month, 1; number of new patients during month, 9; number of patients discharged, 7; number of visits by head obstetrician, 0; number of visits by the attending obstetrician, 2; number of visits by students, 58; number of visits by nurses, 61; total number of visits for this department, 121.

Visits of Guild Nurses (all departments). Number of visits with nursing treatment, 1,302; for professional supervision of convalescents, 377; total number of visits, 1,679; cases reported to the Guild by 3 health physicians, and 37 other physicians; graduate nurses 7 and pupil nurses 9 on duty.

Dispensary Report.—Number of clinics held, 73; number of new patients, 129; number of old patients, 414; total number of patients treated during month, 543. Classification of clinics held: Surgical, 12; nose and throat, 7; eye and ear, 7; skin and genito urinary, 8; medical, 12; lung, 3; dental, 0; nervous, 4: stomach, 0; children, 12; gynecological, 8.

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held at the County Court House, Tuesday, September 12, 1911, at 8.30 P. M. Dr. Dudley R. Kathan spoke on Autogenous Vaccines and reported a case. Dr. E. L. Vass also read a paper. Drs. Janet Murray and Frank von de Bogert reported sections on Gynecology and Pediatrics of the American Medical Association meeting held at Los Angeles, Cal., 1911.

New York Food Investigating Committee.—In addition to a number of lay members Dr. Eugene Porter, State Health Commissioner; R. A. Pierson, State Commissioner of Agriculture; Dean Bailey, Director of the State College of Agriculture, and Whitman H. Jordon, Director of the New York State Agricultural Experiment Station, have been appointed by Governor Dix as members of committee.

Industrial Poisonings to be Reported in New York State.—1. Every medical practitioner attending on or called in to visit a patient whom he believes to be suffering from poisoning from lead, phosphorus, arsenic or mercury or their compounds, or from anthrax, or from compressed air illness, contracted as the result of the nature of the patient's employment, shall send to the commissioner of labor a notice stating the name and full postal address and place of employment of the patient and the

disease from which, in the opinion of the medical practitioner, the patient is suffering, with such other and further information as may be required by the said commissioner.

2. If any medical practitioner, when required by this section to send a notice, fails forthwith to send the same, he shall be liable to a fine not exceeding ten dollars.

3. It shall be the duty of the commissioner of labor to enforce the provisions of this section, and he may call upon the state and local boards of health for assistance.

4. This act shall take effect September first, nineteen hundred and eleven.

INTERNATIONAL LIST OF CAUSES OF DEATH.—Census Bureau will Issue Manual Based on Second Decennial Revision.—Census Director Durand will submit in the near future to Secretary Nagel of the Department of Commerce and Labor the manual of the International List of Causes of Death, based on the second decennial revision by the International Commission which met in Paris in 1909. In his letter of transmittal the director states that it contains many additional terms not found in the original translation of the report of that commission, and will be of special service to American registration offices whose returns supply the material upon which the mortality statistics published by the Bureau of the Census are based. It was prepared under the direction of Dr. Cressy L. Wilbur, chief statistician for vital statistics of this bureau.

Remarkable Progress of Classification.—In the introduction of the manual it is stated that the progress of what is known as the International Classification of Diseases and Causes of Death is most remarkable. It can be explained only by the fact that there was a widely recognized need for national and international uniformity of classification, and that the system proposed met fairly well the demands of registration offices and of the users of mortality statistics and proved capable of progressive development as those demands changed with the advance of medical knowledge.

As late as 1893 no two countries in the world employed precisely the same forms and methods for the statistical classification of causes of death, the compilation of which is universally regarded as of the utmost importance for the advancement of sanitary science and practice. This lack of uniformity rendered the statistical results of such classification incomparable, and it was imperative that an effort be made to remedy this defect.

The past eighteen years have seen the successful accomplishment of this task, at least to a degree that warrants the most sanguine hopes of ultimate success and of the early approach of the time when all nations shall be in agreement in this respect.

The measure of this success may be inferred from the large number of countries represented at the sessions of the International Commission in 1900 and 1909, as given in the official reports of the proceedings,

although all countries that employ the classification were not represented by delegates in 1909. In a paper before the Fourteenth International Congress of Hygiene and Demography, held at Berlin 1907, Dr. Bertillon estimated that the system was in effect for over 212 millions of population. This estimate was a very conservative one, the United States being credited with only the population (33.1) millions shown for the registration area in 1904. Since the meeting of 1909 the very important accession of Great Britain has been received.

The Countries Co-operating.—Many countries, among them the United States, that have expressed their cordial approval of the International List and have adopted it for practical use so far as material is available for the statistical compilation of causes of death, do not enforce the complete registration of deaths throughout their entire territory. This is not the case, however, in the British possessions, for as an almost invariable rule there is thorough registration of vital statistics wherever the British flag flies. The addition of the British Empire is thus a most important one.

All the English-speaking and Spanish-speaking countries of the world are now united in the adoption of the International List. The entire Western Hemisphere, including North, Central and South America; Australia and New Zealand; China, Japan, and British India in Asia; Egypt, Algeria, and South Africa in Africa; and many countries of Europe are now, or soon will be, represented among those thus seeking international uniformity. Progress during the present decade should be even more gratifying, and by the time of the third decennial revision, which is to be made in 1919, it may be hoped that all countries will join in the movement.

The manual states that the International List of Causes of Death makes no pretension of being a proper nomenclature of diseases or of including a scientific classification of diseases. It is only a practical working list whereby statistical compilers can assign medical terms reported by physicians as causes of death to certain more or less definite titles representing individual diseases or groups of diseases of similar character. Statistics of causes of death are vitiated to a considerable extent, and sometimes to a very large extent, by the fact that many deaths are reported under what the Committee on Nomenclature of the American Medical Association very graphically calls certain blind returns. How applicable this phrase is can be appreciated most fully by those who have puzzled over returns as received in registration offices, and an inspection of the many unsatisfactory and indefinite causes included in the manual will make it clear that reform is necessary in order to place our statistics of causes of death upon a satisfactory basis.

Importance of Exact Statements.—Satisfactory statements of causes of death can be obtained only by means of a high degree of co-operation between members of the medical profession and the registration authorities. It is desirable that physicians appreciate the importance of exact statements of causes of death and realize, by means of study of the statistical results, how certain forms of reports may lead to misunder-

standing and inaccuracy. An essential requirement is that the blanks employed for the statement of causes of death be uniform, as otherwise specific instructions can not readily be given. A very satisfactory result of the general adoption of the United States standard Certificate of Death, as recommended by the American Public Health Association and approved by the Bureau of the Census, is that uniform instructions can be employed for a very large proportion of the registration area.

In order to familiarize physicians with the general statement of the International List of Causes of Death, a vest-pocket booklet was prepared and distributed directly by the Census Bureau each year, to all physicians of the United States as well as to many thousands of local registrars through their state registration offices.

History of Nosology.—Nosology, or the scientific classification of diseases, was cultivated with fervor a hundred years ago, and was believed to be a necessary part of the knowledge required for the practical treatment of disease. The system devised by Cullen in his "First Lines of the Practice of Physic," came to be the predominant one, although many other systems were presented, among them those of Sauvages, Linnaeus, Vogel, Sagar, Macbride, Young, and Mason Good. All these systems have vanished; the subject is almost entirely neglected, at the present day, but its influence may be traced in the forms of statistical lists in present use. Dr. William Farr found the Cullenian system in general use in the public services at the time of the establishment of the modern system of registration of deaths in England. It had not, however, been revised to meet the demand of the advances of medical science and was not suited to statistical purposes. One of Dr. Farr's first duties therefore, was to prepare a "Statistical Nosology," which had a marked effect upon subsequent classifications, including that of the second revision of the International List.

As a result of his practical experience with this system Dr. Farr was selected, together with Dr. Marc d'Espine of Geneva, by the First Statistical Congress, Brussels, 1853, to prepare a report upon a classification that might be used in all countries for the statistics of causes of death. The resolution to this effect was introduced by Dr. Achille Gullard, a distinguished botanist and statistician, creator of the word "demography," and maternal grandfather of Dr. Jacques Bertillon, to whose efforts the present success of the International List is chiefly due.

This was the beginning of the present International List. The classification was adopted in Paris in 1855, in Vienna in 1857, and was translated into six languages. Again revised at Paris in 1864, 1874, 1880, and 1886, the final form was substantially that which was recommended by the International Statistical Institute, the successor of the old Statistical Congress at Chicago in 1893, and which, after the first decennial revision of 1900 and the second decennial revision of 1909, is now the International List in force in a large number of countries for the decade beginning January 1, 1910, and ending December 31, 1919.

Personals.—Dr. Henry Hun, after having spent fifteen months in Europe, has returned to active practice in Albany.

—Dr. Andrew MacFarlane (A. M. C. '87), has returned after spending the summer in Europe.

—Dr. George G. Lempe (A. M. C. '88), has returned to Albany from Germany.

—Dr. William G. Lewi (A. M. C. '92), has returned from England and France.

—Dr. Flavius Packer (A. M. C. '93), formally assistant superintendent of Matteawan State Hospital, is now at the Riverdale Sanitarium, Riverdale, N. Y.

—Dr. Eugene E. Hinman (A. M. C. '99), sailed for Europe September 23rd. He will continue his post-graduate work for some months.

—Dr. Arthur F. Holding (A. M. C. '01), of Albany, has been elected an associate member of the American Proctologic Society.

—Dr. John P. Faber (A. M. C. '05), is now practising at Des Moines, Iowa. Dr. Faber, after many months spent in post-graduate study in Europe, has now confined himself to the practice of diseases of children.

—Dr. Zenas V. D. Orton (A. M. C. '07), has left Salem, N. Y., to engage in more active practice at Newburgh, N. Y.

—Dr. James E. Maloney (A. M. C. '07), has resigned from his post in the United States Army and is now engaged in practice at Ravena, N. Y.

—Dr. Henry H. Drake (A. M. C. '09), has been appointed district physician, Albany, in place of Dr. Brierly deceased.

—Dr. John E. White (A. M. C. '10), having served a year as resident of the Albany Hospital, is now in practice, with an office at 311 Delaware Ave., Albany, N. Y.

—Dr. John R. Devine (A. M. C. '10), has started practice at 857 Bleecker St., Utica, N. Y.

—Dr. Frank G. Calder (A. M. C. '10), after leaving the Albany Hospital resident staff, has opened an office at Altamont, N. Y.

—Dr. John A. Farrell (A. M. C. '10), after a year as resident of the Albany Hospital, has started practice at 1422 Third St., Rensselaer, N. Y.

—Dr. Harold MacDonald (A. M. C. '10), after a year as resident in the Ellis Hospital, has started practice at 759 Nott St., Schenectady, N. Y.

—Dr. W. S. Lilienthal (A. M. C. '10), after a year as resident in the Albany Hospital, has opened an office at 38 Grand St., Albany, N. Y.

—Dr. Bertram W. Gifford (A. M. C. '11), has opened an office at 268 Main St., Saugerties, N. Y.

Died.—Dr. William P. Brierly (A. M. C. '86), was struck by a trolley car on the Schenectady turnpike and instantly killed, on June 22, 1911.

—Dr. John A. Johnson (A. M. C. '77), died at his home in Chateaugay, N. Y., August 12, 1911, aged 72.

—Dr. James G. W. Entwistle (A. M. C. '83), died at his home in Canton, Ill., September 1, 1911, of pernicious anaemia, aged 69.

—Dr. A. Herbert Bayard (A. M. C. '89), died at his home in Cornwall, N. Y., August 31, 1911, aged 42.

—Dr. Robert E. Doran (A. M. C. '93), medical superintendent of the Long Island State Hospital, at Flatbush, Long Island, died September 23, 1911, aged 42.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Handbook of Practical Treatment. In three volumes. By 79 eminent specialists. Edited by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania; and A. O. J. Kelly, M. D., Assistant Professor of Medicine, University of Pennsylvania. Volume II: Octavo of 865 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Per volume: cloth, $6 net; half morocco, $7.50 net.

The same words of commendation that were written of the first volume of this notable work can be safely said of this, the second. This considers diseases of the circulatory system, infectious diseases, tropical diseases and animal parasites. There are forty-three subdivisions of the subject-matter and each one is written by an author of more than local reputation, men whose words are bound to have weight wherever spoken. A glance at the list of contributors will show at once the breadth and scope of the work, for it includes, clinicians, climatologists, surgeons, pathologists and specialists in many branches of medicine.

Much interest will attach to the section on typhoid fever, written by Rufus I. Cole, Director of the Hospital of the Rockefeller Institute. Dr. Cole gives much consideration to the specific treatment of the disease, including of course, immunization, and when we remember the brilliant results obtained by that method of treatment in the recent army maneuvers along the Mexican border, we must regret that he concludes with the following statement: "Considerable space has been given to the specific cure of the disease, not because the results obtained so far have been of much value, but because it is only by further work along this line that it seems we may hope further to reduce the mortality in typhoid fever and finally cure all cases." His discussion of the diet in typhoid is most fair to those who advocate a more liberal ration but yet he is quite emphatic in stating that a strictly liquid diet is indicated during the course of the fever. The prominence of Dr. Hare of Philadelphia, not only as a therapist but as a writer on drugs lends much interest to his discussion of the proper medication to employ in the treatment of pneumonia. Could anything be more nearly accurate than the statement: "In pneumonia the motto should be, 'let the patient get well,' and give drugs only when they are indicated, to meet a special taste. The mental attitude of the physician should be one of protest against

drug giving, although when real need exists he must often be heroic in his use of medicines. The proposition as to the circulation is not 'it must be stimulated,' but rather 'does it really need stimulation?' and if so, how much is needful?" Stengel's article on rheumatism and rheumatic fever is disappointing in that it adds nothing new to our knowledge either of the etiology or treatment of that most annoying of conditions. In his conclusions as to the superiority of sodium salicylate over acetyl-salicylic acid as a remedy, some of the older practitioneres will concur but more will disagree.

As might be expected, the subject of tuberculosis occupies more space than any other one subject. Dr. E. G. Otis writes the article which is profusely illustrated and in it he gives due credit to those who have initiated certain forms of treatment.

It will be interesting to note if the third volume of "Preatical Treatment" is of as high a standard as the preceding ones.

SPENCER L. DAWES.

Clinical Treatises on the Pathology and Therapy of Disorders of Metabolism and Nutrition. By Prof. Dr. CARL VON NOORDEN, Professor of the First Medical Clinic, Vienna. Authorized American Edition. Part VII, Inanition and Fattening Cures; Part IX, Technique of Reduction Cures and Gout. New York, E. B. Treat & Co., 1910.

These little volumes are worthy of the author and are the results of the compilation and condensation of several lectures delivered in a post-graduate course for Vienna physicians in May, 1908.

Von Noorden assumes a familiarity on the part of his readers with the facts that underlie our knowledge of the disorders of metabolism and limits himself to a discussion of certain general conclusions that are based on theoretical and clinical experience and that are of value in actual practice. In Part VIII the discussion of the participation of the different organs in the loss of weight, numerical data for calculating the degree of undernutrition, composition and caloric value of some of the important articles of food, and indications for fattening cures are chapters of especial interest, while in Part IX our attention is attracted at once by the second part relating to gout, nephrolithiasis urica and their treatment. Reduction cures and indications for them are carefully considered.

S. L. D.

Proceedings of the Fourth Annual Meeting of the Association of Life Insurance Presidents. Chicago, Ill., December 9 and 10, 1910.

There is not a great deal in this book to interest the average physician, whatever its merit, excepting the paper of Dr. Alvah H. Doty, Health Officer of the Port of New York entitled "Modern Sanitation," and "The Fight Against Preventable Diseases" by Dr. Eugene H. Porter, New York State Health Commissioner. The investigation of Dr. Doty's administration now going on makes his paper of especial interest.

S. L. D.

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ALBANY MEDICAL ANNALS

Original Communications

ON THE DIAGNOSIS AND TREATMENT OF THYROID GLAND DISEASES.

By GEORGE E. BEILBY, M. D.,

Assistant Attending Surgeon, Albany Hospital, Albany, N. Y.

The remarkable development during the last few years in surgery of the thyroid has afforded abundant occasion for the study of the various lesions of this organ. This has been largely supplemented by experimental and bio-chemical studies so that to-day we have certain very definite facts to guide us in the management of the various diseases which have their origin in this gland. We recognize for instance that the two types of hypertrophy present as definite and distinct differences in their histological picture as in their clinical manifestations, and this is likewise true of the tumors and cysts. That this knowledge should have a more general application in the diagnosis and management of these cases is clearly evident to one who meets with them in consultation. In other words, while our knowledge of the various diseases has a definite pathological basis there is still a remarkable lack of clinical interpretation of these facts among the profession. It seems that the adherence to the term "goitre," which is so generally used, even among surgeons of wide repute as including every known type of thyroid enlargement, is very largely responsible for the lack of distinction in the minds of many clinicians. It is used to characterize all enlargements of the gland whether it be one of the forms of hypertrophy, a cyst or a tumor. It is clearly evident that the word used in this manner has no pathological significance and therefore does not convey any definite clinical information.

From the standpoint of pathology, all of the lesions of the

thyroid gland naturally fall into three groups—the hypertrophies, the tumors and the inflammations, and this classification should give a good working basis in the diagnosis of thyroid lesions. The hypertrophies of the gland are characterized by diffuse enlargement. This enlargement is not always uniform and may manifest itself in a greater increase in the size of one lobe or portion of the gland than of the remaining portion. The simple or colloid form of hypertrophy is due to an excess of colloid formation in the alveoli of the gland and is further characterized by certain changes in the alveolar epithelium; notably a reversion from a columnar to a low cuboidal type. It is this form of hypertrophy which very commonly causes an increase in the size of the gland at about the age of puberty both in boys and girls and is to a certain degree physiological. As a rule this hypertrophy does not advance beyond a certain stage and most often the gland returns to its normal size after a few years. Instead, however, of a subsidence of this physiologic hypertrophy, the process, in an exaggerated form, may continue and a permanent hypertrophy result. This form gives us the diffuse enlargements of the gland which often reach excessive size. In simple hypertrophy the symptoms produced are mainly mechanical ones due to the pressure of the enlarged gland upon the structures of the neck. The other form of hypertrophy is commonly known as exophthalmic hypertrophy or Graves' disease. Inasmuch as it is characterized by an excessive secretion of the active principle of the gland, which secretion gives rise to the well-known symptom-complex of the disease—exophthalmos, tacchycardia, tremor and nervousness,—the term hyperthyroidism is now employed as comprising all grades of excessive thyroid activity. In this type of hypertrophy we also recognize as a rule a symmetrical enlargement of the gland though one which never attains great size. The symptoms are out of proportion to the enlargement. In fact the hypertrophy is often of so moderate a degree that it escapes unnoticed.

In addition to this form of hypertrophy, in which the symptoms of hyperthyroidism are always present, we have long recognized clinically that other forms of thyroid lesions, for example the simple hypertrophy, the cysts, or the tumors, may be accompanied by some evidence of hyperthyroidism, such as an increase in the pulse rate or extreme nervousness. Histo-

logical examination of the tissues removed from such cases has proven beyond a doubt that where these symptoms were present the hypertrophied gland or tumor contained areas of epithelial hyperplasia.

In direct contrast to the hypertrophies we have the tumors and cysts which represent the asymmetrical enlargements. The benign tumors are mainly of the adenomatous variety. These adenomata may occur as single tumors or as multiple tumors in one or both lobes. They are always encapsulated and very often definite lobulations can be made out. The size which they may attain varies greatly. The cysts with very few exceptions develop from degeneration of the adenomata so that we might say they simply represent a later stage of the adenomata. The cysts are more apt to be smooth and ovoid in shape and at times definite fluctuation may be made out. Of the malignant tumors carcinoma is the form most frequently met with. It may occur as a primary growth in an otherwise normal gland or as secondary to some other thyroid lesion. An early symptom of carcinoma is rapidly developing tracheal stenosis and at times change in the voice due to involvement of the recurrent laryngeal nerve.

In considering the treatment of thyroid diseases it is well to group the cases into two classes, those which present symptoms of hyperthyroidism, and those whose effects are purely mechanical. In the first group we would include not only the cases presenting those typical and severe symptoms—enlargement of the gland, exophthalmos, tacchycardia, tremor and nervousness—and which we have formerly labeled as exophthalmic "goitre," Graves' disease or Basedow's disease, but we would include all cases which present general or systemic evidence of thyroid hyper-activity. This will include many cases that are now treated for heart disease, nervous disease, gastric crisis and intestinal toxaemia. The symptoms which are produced by hyper-activity of this gland are so insidious and so varied that the true nature of the condition often passes unrecognized in the early stage of the disease, or until a projecting eye-ball or "goitre" becomes sufficiently prominent to reveal the then serious nature of the condition. Again there are many cases in which the pathological changes in the gland, which we recognize as causing hyperthyroidism, become engrafted upon or associated

with other thyroid lesions and here we are apt to see mild or atypical symptoms produced. The adenomata and the cysts as well as the colloid form of hypertrophy are often accompanied by extreme nervousness and mental symptoms and frequently by a moderate increase in the pulse rate. There are many cases in which the patient is unaware of any increase in the size of the gland and in which, on casual examination, a slight hypertrophy passes unnoticed, who suffer from intractable nervousness, mental excitement or depression, or other well recognized symptoms of hyperthyroidism. These patients have usually run the gauntlet of therapeutic agents and it is only when the disease is well advanced or serious complications have intervened that the true nature of the trouble becomes evident.

The second class of cases should include the uncomplicated forms of simple or colloid hypertrophy, the tumors and the cysts. In other words all forms of thyroid enlargement in which there is no evidence of hyperthyroidism. The deformity and the mechanical effects of the hypertrophy or the tumor are the symptoms for which relief is sought. Pressure upon the nerves and blood-vessels of the neck may cause neuralgia or vertigo. Tracheal stenosis or changes in the voice from involvement of the recurrent nerves are symptoms very commonly complained of.

It seems that the first duty of the surgeon is to overcome the prejudice which is still prevalent in the minds of the laity, and to a considerable extent also among the profession, against operations upon the thyroid gland. A number of factors have contributed to this unfortunate state of affairs. In the first place it is only within comparatively recent years that the various pathological changes which occur in the gland have been recognized and properly interpreted and any intelligent clinical classification attempted. This knowledge except in a few of the larger surgical centres in Europe and in this country has not had the wide dissemination that it should. Even to-day among our recent graduates in medicine there is a sad lack of proper knowledge along these lines. A second factor is the high mortality that has attended thyroid surgery. This has been due largely to the fact that operation was looked upon as a last resort and only undertaken after all other methods of treatment had failed to give relief. Death in these cases has been unjustly charged to surgery. Again the unfortunate consequences that

have followed the removal of too great a portion of the gland, or the destruction of the parathyroid bodies, has brought terror to both physicians and patients and resulted in a condemnation of good and bad surgery alike. I think there is no surgical procedure which if improperly carried out may result in more harm to the patient than the operations upon this gland and, what is equally true, we see nowhere more brilliant results, nor more striking benefits derived from operation than those performed, for instance, for the relief of severe forms of hyperthyroidism.

The question when to operate must be considered from several standpoints. In the benign tumors and cysts about the same rules should apply as when dealing with tumors and cysts of other organs. If they are complicated by any of the symptoms of hyperthyroidism this is a factor which must be taken into account. If the symptoms are purely local, their severity and the amount of deformity produced should be the chief determining factors. We should bear in mind however that their tendency is almost invariably to increase in size and also that a certain percentage undergo malignant changes later in life. With regard to the use of local applications or systemic treatment in this class of cases, we should remember that we are dealing with a new growth and that because it is situated in the thyroid gland it is no more amenable to this form of treatment than a tumor or a cyst in any other part of the body. We frequently meet with these cases that have undergone prolonged series of treatments of various nature,—medicinal, electrical and mechanical—with the only result possible,—rendering the patient more nervous and the growth more difficult to remove.

What applies in the treatment of the tumors and cysts is true in a general way in dealing with the uncomplicated forms of simple or colloid hypertrophy. When the hypertrophy reaches an excessive size nothing but the removal of a part of the gland will relieve the condition. Many of these hypertrophies, when of only a moderate degree, tend to a spontaneous recovery or to an arrest of the process under favorable conditions. This is especially true of the cases occurring in the adolescent. This type of hypertrophy may often be favorably influenced by medication or local treatment. The employment of iodine frequently causes a decrease in the colloid content of the alveoli and a

reversion of the epithelium to a more normal type. It is in that large class of cases, characterized by over-secretion of the gland, that we meet with the most difficult problems. It is hard to do more than formulate a few general rules to guide in their management. In the early stages of the disease and before any operative procedure is undertaken certain therapeutic and hygienic measures should be instituted. Perhaps of more value than any other agent is prolonged rest in bed, preferably in a hospital or sanitarium away from the patient's home and family. If within a reasonable time, depending upon the degree of hyperthyroidism and its duration, there is no permanent improvement in the condition, recourse should be had to some means of diminishing the amount of thyroid secretion entering the circulation. All rational treatment to-day has this end in view. The cytotoxic sera are used by its advocates with the purpose in mind of causing the death of a part of the secreting epithelium of the gland. The most certain means of accomplishing this is the removal of a definite portion of the hypertrophied organ and the results of operation leave no doubt as to the superiority of this means of treatment. In the worst forms of the disease before any operation can be undertaken it is often necessary that the patient have a prolonged rest in bed and other suitable treatment until the general condition improves and the operation is considered safe. Often a preliminary ligation of one or both superior thyroid arteries is necessary before it is safe to undertake a removal of a portion of the gland. Every case should be studied carefully and only such measures undertaken as are within the limits of safety. If these methods are carried out, operations upon the thyroid gland will be placed among the safest and most satisfactory in major surgery.

I present the following cases, with photographs, illustrative of the various types of thyroid diseases, which have occurred in my service at the Albany Hospital during the last two years, as exemplifying the clinical histories of such conditions and also the operative results.

Case No. 29651. *Diagnosis—multiple adenomata of the thyroid.* Male, aged 21 years. Ten years ago patient first noticed a small tumor in the region of the right lobe of the thyroid gland. This increased gradually in size until about one year ago when other tumors made their appearance. Since this time there has been a rapid increase in their

To Illustrate Dr. Beilby's Article "On the Diagnosis and Treatment of Thyroid Gland Diseases."

Albany Medical Annals, November, 1911



Before operation



One week after operation

Case No. 29651. Multiple Adenoma of the Thyroid

To Illustrate Dr. Beilby's Article "On the Diagnosis and Treatment of Thyroid Gland Diseases."

Albany Medical Annals, November, 1911



Before operation



Ten days after operation



One year after operation

Case No. 27410. Colloid Hypertrophy of the Thyroid

To Illustrate Dr. Beilby's Article "On the Diagnosis and Treatment of Thyroid Gland Diseases."

Albany Medical Annals, November, 1911



Before operation



Ten days after operation

Case No. 29483. Colloid Hypertrophy of the Thyroid with mild symptoms of Hyperthyroidism

To Illustrate Dr. Beilby's Article "On the Diagnosis and Treatment of Thyroid Gland Diseases."

Albany Medical Annals, November, 1911



Before operation



Ten days after operation



One year after operation

Case No. 27292. Hyperthyroidism (Exophthalmic Hypertrophy)

To Illustrate Dr. Beilby's Article "On the Diagnosis and Treatment of Thyroid Gland Diseases."

Albany Medical Annals, November, 1911



Before operation



Two weeks after operation

Case No. 33070. Hyperthroidism (Exophthalmic Hypertrophy)

size. Patient suffers slightly from vertigo and dyspnoea. There is no exophthalmos or tacchycardia. The general health of the patient had remained good. Relief is sought on account of very marked deformity and the pressure symptoms. On examination it is seen that the entire space between the claviculae and the inferior maxilla is occupied by a large, irregular, lobulated tumor which measures approximately nine by four inches in size. It seems to consist of one large tumor mass and three or four smaller ones. In the large tumor mass there is slight evidence of fluctuation. These tumors apparently have their origin in the right lobe and isthmus of the gland. The left lobe is palpable and shows a slight hypertrophy. Clinical diagnosis—adenomata of the thyroid with beginning cystic degeneration. Patient made a rapid recovery from operation and now at the expiration of one year is in excellent health.

Case No. 27410. *Diagnosis—colloid hypertrophy of the thyroid.* Male, aged 29 years. The enlargement of the neck began fifteen years ago, at the age of 14. There has been a gradual increase in the size of the neck. Patient states that during the last year there has been a more rapid increase than before. The circumference of the neck about the tumor is nineteen and one-fourth inches. It presents a uniform enlargement which involves both lobes and the isthmus of the gland. He suffers from dyspnoea on slight exertion and perspires freely both in winter and in summer. There is no tacchycardia or nervousness or any other symptoms of hyperthyroidism. Patient made a satisfactory recovery from operation and remains well now nearly two years since operation.

Case No. 29483. *Diagnosis—colloid hypertrophy of the thyroid gland with mild symptoms of hyperthyroidism.* Female, aged 16 years. Patient has noticed for two years an enlargement of the neck mostly confined to the right side. For the last six months there has been a more rapid increase in size. Patient suffers from extreme nervousness and hoarseness but no exophthalmos. Examination of the neck shows a uniform enlargement extending backward on either side underneath the sternomastoid muscles occupying the position of the thyroid gland. On palpation it is found that both lobes of the gland and isthmus are involved. The enlargement is a little more marked in the right than in the left lobe. It presents an elastic feeling. There is no pulsation evident in the gland. The heart sounds are normal in location and quality. This patient was seen one year after operation and she stated that she had been relieved of all her uncomfortable symptoms and that her health is now excellent.

Case No. 27292. *Diagnosis—hyperthyroidism (exophthalmic hypertrophy).* Female, aged 34 years. Patient's family and past history present nothing of importance with the exception of an attack of typhoid at the age of twenty. Has had one child; no miscarriages. Present

illness dates back about three years when she noticed that she was short of breath and also that her eyes seemed to bulge. These symptoms have grown rapidly worse of late and for the past few months she has been unable to perform her household duties. She has lost considerable in weight. She is extremely nervous and suffers from insomnia. On examination there is seen a diffuse enlargement of the neck in the position of the thyroid gland. Both lobes and the isthmus are involved, the right lobe being the larger measuring four by two inches; the left three by one and one-half inches. There is visible pulsation in both lobes. Pulse varies from 110 to 130, is very soft and irregular. Skin is moist and patient perspires freely. She seems extremely nervous. There is a fine fibrillary tremor in the fingers and tongue. Eyeballs prominent; lids do not approximate when patient closes the eyes. This patient had been treated by various physicians both by internal medication and by the use of electricity and local applications without any permanent benefit. At the operation, which was undertaken after a week's preliminary treatment of rest in the hospital, the right lobe of the thyroid gland was removed under light ether anaesthesia. The posterior capsule was divided and left in situ. The usual collar incision was used. Dyspnoea and cyanosis was very marked for a few hours subsequent to the operation. This gradually disappeared and on the fourth day after the operation there was a very striking improvement in all her symptoms. The pulse dropped to 86, the lowest point since her admission to the hospital. The patient made a good recovery and was discharged two weeks after the operation. Now nearly two years have expired and she writes me that her health is excellent.

Case No. 33070. *Diagnosis—hyperthyroidism (exophthalmic hypertrophy)*. Male, aged 34 years. The onset of this patient's illness dates back but three months. His first symptoms were those of weakness and lassitude. These were followed by attacks of nausea and vomiting and rapid loss of weight. About two months ago his eyes became prominent and he began to suffer from palpation of the heart. He states that he has lost 50 pounds in weight. Examination—patient appears extremely nervous and emotional. His muscles are flabby and wasted. There is a moderate degree of exophthalmos and a diffuse hypertrophy of the entire thyroid gland. There is marked pulsation over the entire abdomen most prominent in the epigastric region, and also visible pulsation in the enlarged gland. Pulse 120, very irregular and soft. There is heard a loud blowing murmur in the second intercostal space on the left side which is transmitted upward. The neck presents a uniform enlargement extending from the claviculae and sternal notch upward to the thyroid cartilage. The enlargement is more prominent on the right than on the left side of the neck. The mass moves on swallowing. On palpation it is found to be soft and slightly lobulated. On account of the severity of this case no operative procedure was undertaken for one week after admission to the hospital. He was kept quiet in bed and by the use of ice packs to the neck and over the precordium and

the moderate use of opium and belladonna his circulation and nervousness improved to such a degree that the removal of one lobe and isthmus was made possible. He had a very acute reaction from the operation which continued for forty-eight hours after which there was a rapid improvement in his condition. He left the hospital three weeks after operation and began rapidly to gain strength and weight. Now two months after operation he is showing very rapid improvement.

THE CHEMICAL AND PHYSIOLOGICAL IMPORTANCE OF THE NUCLEIC ACIDS AND THEIR CLEAVAGE PRODUCTS.

Read before the Eastern New York Section of the American Chemical Society at the Bender Laboratory, Albany, N. Y., April 7, 1911.

By VICTOR C. MYERS, Ph. D.,

Adjunct Professor of Physiological Chemistry in the Albany Medical College, Albany, N. Y.

Of the various substances occurring within the animal or plant organism, none have attracted greater biological and chemical interest than the nucleic acids. These acids are found in the nuclei of all cells, combined with protein, as nucleoprotein. Their embryological importance can scarcely be estimated, when we consider that the chromatin material, so important in cell division, is made up largely of nucleoprotein. This nuclear material gives to the fibrils which ramify the cell nucleus decidedly acid properties, in consequence of which, they have a strong affinity for such basic stains as methylene blue. The biological application of this chemical fact has obviously been of the greatest importance. It may be impossible to write the chemical equations, but, nevertheless, such microchemical reactions have given great aid in the interpretation of the chemical nature of the tissues. Without a thorough knowledge of the chemistry of these reactions, the magnificent work of Ehrlich would have been impossible. Physiological interest in the nucleins was first aroused by the classic work of Horbaczewski, who showed that uric acid could be produced by oxidation of nucleins outside the body, and further, when introduced into the body, they caused an increased uric acid elimination. Later, the nucleins were conclusively shown by Kossel to be the mother substance of the purines in the animal body. By his synthesis

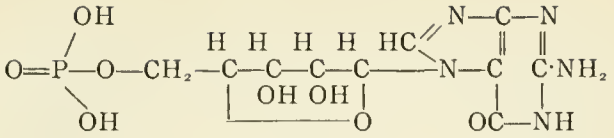
of the hypothetical purine and the subsequent preparation of the various purine bodies from it, Emil Fischer was able to establish the chemical relationship of the purine bases to one another, and to uric acid.

The Chemical Constitution of Nucleic Acids.—As previously mentioned, the nucleic acids proper, are cleavage products of nucleoprotein. That these acids, whether of animal or plant origin, yield four characteristic products:—purines, pyrimidines, phosphoric acid and a carbohydrate group, has long been known. Recently, by the work of Levene, Walter Jones and others, it has been demonstrated that two, and only two, purine derivatives are found in all ordinary nucleic acids, viz., adenine and guanine. With regard to the pyrimidines, it has been observed that cytosine and uracil exist in all nucleic acids of plant origin, likewise, in that obtained from fish eggs, while in the higher animal nucleic acids, uracil is replaced by thymine. With regard to the phosphoric acid, four molecules are known to be present in a molecule of the acid. The nature of the carbohydrate group has long been a subject of inquiry. Evidence has quite recently been brought by Levene and Jacobs to show that in plant nucleic acids at least, the group is a pentose,* and further, that this pentose is d-ribose. There is no conclusive data on the nature of the carbohydrate group in the acids of animal origin, but it is quite generally regarded to be a hexose.

By a remarkable series of experiments, Levene and Jacobs have been able to show the arrangements of these various groups in the molecule. They were led to these results by a previous preliminary study of more simple acids similar in nature, viz.: inosinic and guanylic acid. These acids have been known to contain phosphoric acid, a carbohydrate, and a purine. Recently Levene and Jacobs† have demonstrated, in opposition to various older views, that the carbohydrate stood between the purine and the phosphoric acid. In both these acids, the carbohydrate was found to be d-ribose, the only difference in the acids being that inosinic acid contains hypoxanthine, while guanylic acid contains guanine.

*Though the carbohydrate group in the simpler acids, inosinic and guanylic, is generally conceded to be a pentose, numerous controversies exist with regard to its nature.

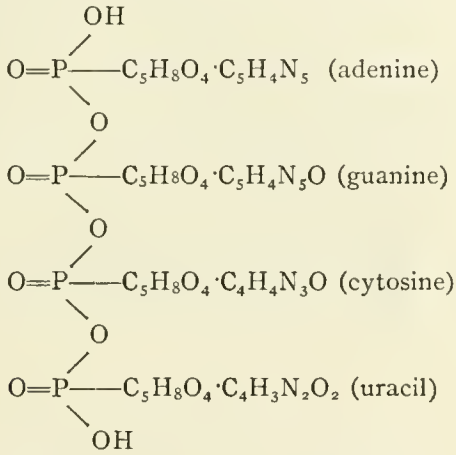
†Work on inosinic acid with similar results as regards the molecular arrangement was simultaneously reported by Haiser and Wenzel.



phosphoric acid d-ribose guanine

The Mononucleotide, Guanylic Acid.

These simple acids, Levene and Jacobs have named nucleotides, the carbohydrate-purine portion being called a nucleoside. Having obtained the general structure of the simple acids, it was reasonable to assume that the higher nucleic acids would be a combination of this same group. This was found to be the case with yeast and tritico nucleic acids. That is, in these phytonucleic acids we have four nucleotides, combinations of phosphoric acid with adenosine, guanosine, cytidine and uridine.



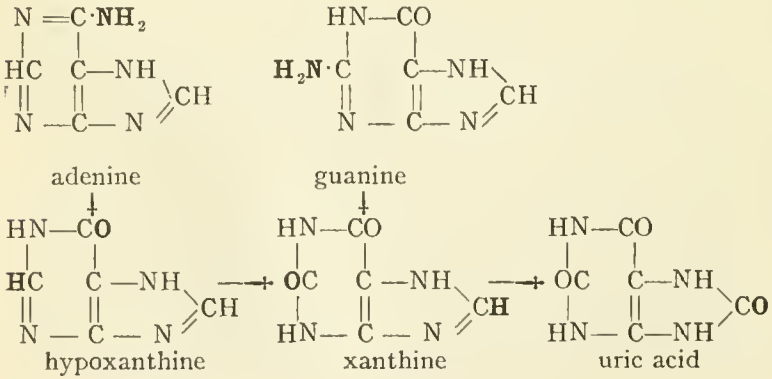
phosphoric acid d-ribose purines and pyrimidines

Yeast Nucleic Acid.

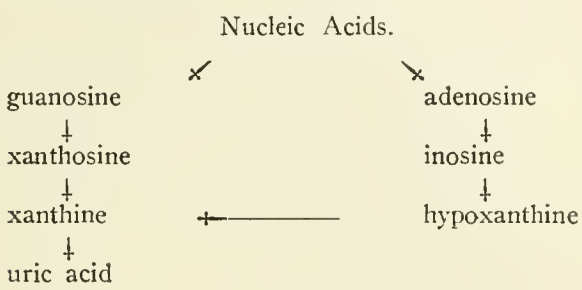
As regards the exact position in which these various groups are joined, considerable information has been obtained. The purines appear to be joined to the alpha carbon of the carbohydrate at position "7" and the pyrimidines at position "3," while the omega carbon of the carbohydrate is linked to the phosphoric acid. It is easy to imagine the probable structure

of the thymonucleic acids with hexoses substituted for pentoses, and thymine for uracil. As soon as the structure is somewhat more completely determined, attempts at a synthesis will no doubt be begun, but the task, apparently now quite simple, will approach in magnitude the synthesis of even protein itself.

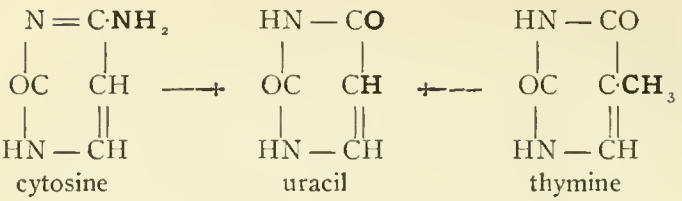
Enzymatic Transformations in the Nucleic Acids.—The various enzymatic transformations of the nucleoproteins and nucleic acids in the body are even more interesting than the chemistry of the acids themselves. Jwanoff was apparently the first to note and describe a breaking up of nucleic acids as due to the action of a specific enzyme, which he called *nuclease*. However, E. Salkowski had long before noted that, in the autolysis of certain glands, purines were set free. In the transformation of these two purines to uric acid, Jones, in collaboration with Partridge, and later with Winternitz, was able to supply missing links, and to add further to the belief of the specific action of enzymes. He was able to demonstrate two distinct deaminizing enzymes, *adenase* and *guanase*, which acted upon the two purines, adenine and guanine, transforming them to hypoxanthine and xanthine. That these oxypurines may be transformed in the presence of air to uric acid has long been known, and to this enzyme Burian has applied the name *xantho-oxidase*. That uric acid can in turn be destroyed by tissue extracts is likewise well established, and this last type of enzyme Schittenhlem has called the *uricolytic enzyme*. This transformation may be represented by the following graphic scheme:



Very recently (April, 1911), Jones has shown that we have specific nucleases; i.e., guanylic acid is acted on only by a specific nuclease, guanylase. Furthermore, he has pointed out that adenosine and guanosine may be the first products formed by enzyme action on nucleic acids, and not adenine and guanine. This last turn is very interesting and possibly what we might expect in light of the recent work of Levene and Jacobs. These investigators have been able to transform adenosine and guanosine into inosine and xanthosine by chemical methods, and Jones has demonstrated one of these transformations enzymatically, which would indicate the following as a possible nucleic acid cleavage in the body.



In contrast to our very complete knowledge of the various enzymatic purine transformations and their fate in the body, we know almost nothing in a similar way with regard to the pyrimidines. It has been shown chiefly by the experiments of Jones, and of Levene, that when certain glands are allowed to self-digest, the pyrimidines are set free in a way analogous to the purines, presumably by a nuclease. Experiments would further indicate that we have an enzyme capable of deaminizing cytosine and transforming it to uracil. The evidence in regard to the demethylation of thymine is inconclusive. Mendel and I have endeavored to definitely determine whether enzymes having actions analogous to the purine enzymes would be present in such a gland as the liver, employing synthetic pyrimidines, which we added to the liver extracts under various conditions. The following scheme will show the transformations which might be expected.



cytosine uracil thymine

None of these transformations could be detected. It is possible that the organ employed did not contain the enzymes looked for, and it is my intention to continue this study with other glands. It was found, however, as will be noted later, that these three pyrimidines are much more stable in their character than are the familiar purines.

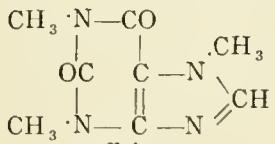
That phosphoric acid is set free from nucleic acids (guanylic acid) by enzyme action has been shown by the recent work of Jones. Of this we have had abundant evidence, inasmuch as nucleoprotein ingestion is always followed by an increased phosphoric acid elimination. With regard to the liberation of the carbohydrate by enzyme action, no experiments have apparently been made, though this is obviously the case.

Life History of Nucleic Acid Cleavage Products in the Body. —It has long been known that the ingestion of nucleoprotein, or nucleic acids, is followed by an increased elimination of phosphates, and nothing can really be added to that statement. The carbohydrate groups, it may be supposed, are utilized as a source of energy.

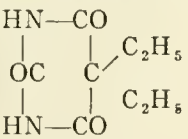
With regard to the purine portion, whether it be endogenous or exogenous in its origin, it suffers the same transformations as outlined above, with the result that in man, from 0.3-1.0 gram of uric acid, and 15-50 mgms. of the purine bases which escape transformation to uric acid, are ordinarily eliminated in the urine. In man, about half the uric acid formed is destroyed; i.e., twice as much is formed in the body as eliminated in the urine.

The pyrimidines occur in the nucleic acids, as has been pointed out above, in molecular proportions with the purines, and this would indicate an equal physiological importance. Our knowledge in this respect, however, has been notably lacking. At various times, Kossel has suggested the pyrimidines, especially cytosine, as probable purine precursors, but no reliable data has

been collected on this point. When any of the purines, which are antecedents of uric acid, are introduced into the body, their administration is followed by an increased uric acid elimination. Steudel attempted to determine the fate of a variety of pyrimidines in the body, and also to ascertain if they would increase the purine elimination. The similarity in their structure might indicate this. (The purine nucleus is the pyrimidine nucleus to which that of urea has been grafted.) Among these, he employed two of the pyrimidines obtained from nucleic acids, viz., uracil and thymine. Inasmuch as he could not recover these compounds from the urine, or detect an increase in the purine elimination, he concluded they were completely destroyed in the body. Quite recently, this question was reinvestigated by Mendel and myself. After preparing uracil, thymine, and cytosine, by the admirable syntheses of Wheeler and Johnson, they were introduced into the organism of several animals, including man. Contrary to the statements of Steudel, it was possible not only to detect the pyrimidines in the urine by suitable color reactions, but also to recover them in large quantity from the urine in sufficiently pure form to give correct analyses. That pyrimidines, when introduced into the body, as such, do not function as purine presursors, we were able to prove conclusively, if the purine elimination may be taken as a criterion. As is well known, the methylated xanthines, caffeine and theobromine are widely employed as diuretics, and the methylated pyrimidine, thymine, was stated by Levene to produce a marked diuresis.



caffeine



veronal

This statement we were entirely unable to confirm in a long series of experiments on rabbits, dogs, and man; and, furthermore, dimethylthymine was just as devoid of diuretic properties. It is noteworthy in this connection that our safest and most active hypnotic, veronal, is a pyrimidine compound. This too was shown by Fischer and von Mering to be excreted in large measure unchanged. Apparently the pyrimidines are more stable in metabolism than are the familiar purines.

As to the fate of the pyrimidines in normal nucleoprotein metabolism, we have no knowledge. I have attempted to detect pyrimidines in normal urine, and in urines obtained after the ingestion of nucleoproteins and nucleic acids, likewise in pathological conditions, without result. From this, it would hardly seem probable that the pyrimidines are set free from the nucleic acids in the same manner in the body as are the purines. It is possible that the phosphoric acid is first set free, as Jones has shown may be the case with guanylic acid, and that the pyrimidine-carbohydrate complex thus formed is not readily split up. At any rate, the recent attempts of Levene and Mediggreceanu to cause a cleavage of cytidine by tissue plasma have been without result. Should this be the case, pyrimidines might be detected in the urine under the above circumstances after hydrolysis with acids, but this supposition has not been followed up experimentally. The normal fate of the pyrimidines in body metabolism presents a very interesting but yet unsolved problem, upon which I hope to be able to throw some light in the near future.

ALBANY HOSPITAL.

Ninth Report of Pavilion F, Department for Mental Diseases, for the Year Ending September 30, 1911.

By J. MONTGOMERY MOSHER, M. D.,

Attending Specialist in Mental Diseases

To the Board of Governors:

I have the honor to present the ninth report of the operations of Pavilion F, for the year ending September 30, 1911.

There remained in the Pavilion on October 1, 1910, eleven patients—five men and six women. There have been admitted one hundred and seventy-two men and one hundred and twenty-nine women. The whole number of patients under treatment was, therefore three hundred and twelve.

There have been discharged two hundred and ninety-four patients—one hundred and sixty-nine men and one hundred

and twenty-five women, and there remained in the Pavilion at the end of the year, eight men and ten women.

The following tables show the forms of disease and the results of treatment for the year, and since the opening of the Pavilion:

TABLE I.—Showing the Forms of Disease and the Results of Treatment for the Year Ending September 30, 1911.

Form of Disease.	Recovered		Improved		Unimproved		Died		Remaining		Total		
	M	W	M	W	M	W	M	W	M	W	M	W	Total
Acute delirium	2	4	2	2	1	3	1	1	2	2	8	12	20
Confusional insanity	1	...	6	6	4	10	...	...	2	1	13	17	30
Melancholia	1	3	1	10	5	7	...	2	...	4	7	26	33
Mania	1	3	...	2	3	5	...	...	...	...	4	10	14
Primary dementia	...	...	...	1	5	7	...	...	...	...	5	8	13
Recurrent insanity	...	...	1	3	...	...	...	...	...	...	1	3	4
Chronic delusional insanity	...	...	1	...	4	8	...	...	...	...	5	8	13
General paralysis	...	...	...	...	3	2	1	...	1	...	5	2	7
Terminal dementia	...	...	7	3	16	15	1	1	1	...	25	19	44
Idiocy and Imbecility	...	...	...	1	4	1	...	...	...	...	4	2	6
Alcoholic delirium	15	...	5	...	...	...	3	...	1	...	24	...	24
Alcoholism	...	...	40	4	8	...	...	...	...	...	48	4	52
Drug addiction	...	...	1	2	...	...	1	...	...	...	2	2	4
Hypochondriasis	...	...	...	...	1	...	...	...	...	...	1	...	1
Epilepsy	...	...	1	2	3	1	...	...	...	...	4	3	7
Neurasthenia	...	...	2	2	...	...	...	...	...	...	2	2	4
Hysteria	...	1	...	2	...	2	...	...	...	2	...	7	7
Organic brain disease	...	...	...	1	3	...	2	1	...	1	5	3	8
Cerebral concussion	...	1	...	...	...	...	...	...	...	...	...	1	1
Locomotor ataxia	...	...	1	...	...	...	...	1	...	...	1	1	2
Meningitis	...	...	...	...	...	...	1	1	...	...	1	1	2
Tetanus	...	...	...	...	...	...	1	...	...	...	1	...	1
Tuberculosis	...	...	...	...	...	...	1	2	...	...	1	2	3
Pneumonia	...	...	...	...	...	...	1	...	...	...	1	...	1
Organic heart disease	...	...	1	...	...	...	2	...	...	...	3	...	3
Arterio-sclerosis	...	...	...	...	...	..	1	...	...	...	1	...	1
Carcinoma	...	...	...	...	...	..	...	...	1	...	1	...	1
No diagnosis	...	...	...	...	...	...	...	...	...	...	4	2	6
Totals	20	12	69	41	60	61	16	9	8	10	177	135	312

TABLE II.—Showing the Forms of Disease and the Results of Treatment Since the Opening of the Pavilion, February 18, 1902.

FORM OF DISEASE.	Recovered		Improved		Unimproved		Died		Remaining		Total		Total
	M	W	M	W	M	W	M	W	M	W	M	W	
Acute delirium	28	36	16	16	6	12	13	11	2	2	65	77	142
Confusional insanity	9	5	18	23	18	23	5	3	2	1	52	55	107
Melancholia	22	31	35	84	40	85	1	6	...	4	99	210	309
Mania	6	15	14	24	20	38	1	...	...	...	41	77	118
Primary dementia	2	4	15	7	35	20	...	...	...	...	52	31	83
Recurrent insanity	...	...	11	17	10	12	...	...	...	...	21	29	50
Chr. delus. insanity	...	...	2	5	33	38	...	...	...	...	35	43	78
General paralysis	...	...	2	1	40	4	3	...	1	...	46	5	51
Terminal dementia	...	...	31	29	103	90	18	15	1	...	153	134	287
Imbecility and Idiocy	...	...	19	10	29	26	1	...	...	...	49	36	85
Alcoholic delirium	195	12	29	6	4	2	23	2	1	...	252	22	274
Alcoholism	19	5	175	16	18	5	1	...	...	...	213	26	239
Drug addiction	7	5	7	7	2	4	2	2	...	...	18	18	36
Ptomaine poisoning	1	2	...	...	...	...	...	...	...	...	1	2	3
Uremia	...	...	1	...	1	...	7	1	...	...	9	1	10
Eclampsia	...	1	1	...	...	1	...	1	...	...	1	3	4
Epilepsy	...	...	12	4	17	6	1	...	...	...	30	10	40
Neurasthenia	3	1	20	12	4	11	...	...	...	...	27	24	51
Hysteria	2	6	1	18	1	3	...	...	...	2	4	29	33
Chorea minor	1	1	...	...	1	1	...	...	...	...	2	2	4
Exophthalmic goitre	...	...	...	1	...	...	...	...	...	...	...	1	1
Arterio-sclerosis	...	...	...	...	...	...	1	...	...	...	1	...	1
Hypochondriasis	...	...	9	...	3	...	1	...	...	...	13	...	13
Organic brain disease	...	...	10	6	11	5	8	6	...	1	29	18	47
Cerebral concussion	1	1	3	...	...	...	...	...	...	...	4	1	5
Oedema of the brain	...	...	...	...	1	...	1	...	...	...	2	...	2
Locomotor ataxia	...	...	1	2	...	1	...	1	...	...	1	4	5
Myelitis	...	...	...	...	...	...	...	2	...	...	...	2	2
Cerebro-spinal fever	1	...	...	...	...	...	...	...	...	...	1	...	1
Meningitis	...	...	...	...	...	...	5	1	...	...	5	1	6
Multiple neuritis	...	...	1	...	...	1	...	...	...	...	1	1	2
Paralysis agitans	...	...	...	...	...	...	1	...	...	...	1	...	1
Hydrophobia	...	...	...	...	...	...	1	...	...	...	1	...	1
Tetanus	...	...	...	...	...	...	1	...	...	...	1	...	1
Tuberculosis	...	...	1	...	2	1	4	2	...	...	7	3	10
Typhoid fever	...	1	...	...	...	...	...	...	...	...	...	1	1
Jaundice	...	...	...	...	...	...	...	1	...	...	...	1	1
Pneumonia	...	...	...	...	...	...	4	1	...	...	4	1	5
Heart disease	...	...	1	...	...	...	2	...	...	...	3	...	3
Pernicious anaemia	...	...	...	1	...	...	...	1	...	...	...	2	2
Chlorosis	...	...	...	...	...	...	...	1	...	...	...	1	1
Septicaemia	...	...	...	...	...	...	...	1	...	...	...	1	1
Gastro-enteritis	...	...	...	...	...	...	1	...	...	...	1	...	1
Fracture of skull	...	...	...	...	...	...	4	...	...	...	4	...	4
Multiple fibromatosis	...	...	...	...	...	...	...	1	...	...	...	1	1
Carcinoma	...	...	...	...	...	...	...	...	1	...	1	...	1
Malingering	...	...	...	...	1	...	...	...	...	...	1	...	1
No diagnosis	...	...	...	...	...	...	...	...	...	...	19	13	32
Totals	297	126	436	289	400	389	110	59	8	10	1270	886	2156

Attention may again be directed to the fact that the number of admissions has increased, and that at certain periods during the year the capacity of the Pavilion has been taxed. Owing to the rapid movement of population it has been possible to meet all demands and to treat all patients who have sought admission. It is interesting to note that the average duration of treatment has been twenty-two days, although many patients remained a longer time. This limited average is due to the reception of cases of alcoholic delirium whose symptoms are severe and threatening, but of short duration, and of patients whose legal commitment to an institution for the insane follows promptly. For the latter there is little opportunity, in the short time allowed, for the adoption of a plan of treatment looking toward the complete restoration of health, although in promising cases this is a matter of regret. It is believed that a still larger percentage of cures might be obtained. So many complications, ethical and medical, arise during the early stage of mental disorder that the probable duration of acute attacks has not yet been determined. There are difficulties in management in the home, and there are also objections to the removal to a distance to institutions for the insane. The middle ground is that of the general hospital where facilities are provided which cannot be obtained at home, and the separation from the family with its influence for good is not complete. Herein lies the justification of a department such as Pavilion F. It involves a distinction between acute mental diseases and insanity, for the latter term has come to be recognized as an indication of permanent alienation rendering the victim irresponsible and sometimes dangerous. As statutory law may be regarded as the sublimated expression of the knowledge of the community at large, so the law in a technical department of this kind falls short of the highest expert knowledge. In New York State the legal status of the insane expresses the idea of custody. The appalling number of patients in state institutions, over thirty thousand, represents a burden which seriously confronts the taxpayer, and the fiscal aspect of this question assumes great proportions.

The great discoveries of recent years which have robbed many diseases of their terrors have followed either personal study or scientific researches established by private munificence.

This work is inspired by the enthusiasm of science, and has been carried on in endowed hospitals and laboratories, where investigation has been encouraged. The only real knowledge of disease is gained at the bedside of the patient, and rules for its treatment cannot be formulated elsewhere by either physician or layman.

Pavilion F is the embodiment of a plea for individualization. It stands for the active medical treatment of acute mental disease as against the fiscal control of insanity. It carries into its work all of the resources of a first-class general hospital, and it detains or restrains no patient who is properly a subject for the custody of the State. As experience increases with the observation of patients committed to our care, the truth is more and more definitely revealed that the mental symptoms are one form of expression of physical disease. They might not improperly be regarded as forms of delirium or modified delirium incident upon perversion of bodily function. The rapid and weak pulse, coated tongue, loss of appetite, disorder of digestion, inactivity of the organs of excretion, the skin, the kidneys and the intestinal tract, all indicate the serious constitutional disturbance of which the manifestations of a disordered nervous system are only a part. As the physical health is restored the mental symptoms fade. The patient returns to his family and vocation with as much assurance of future health and capacity as if he had passed through some other form of acute physical disease. He is furthermore protected from that statutory misconception of his disease which labels him insane and places in the State Capitol a permanent legal record of incompetence. The approval of our work so generously and widely manifested, justifies confidence that the attitude assumed toward this problem is correct. So far as we know there has been no adverse criticism. The principle upon which it is based is simple. It is that people afflicted with mental disorder are sick and should be managed and treated as other sick people. After it has been found that the disease is incurable, that the patient is incapable of sustaining his position and responsibilities in life, he becomes a beneficiary of the State.

Attention may be called to the gradually increasing number of general diseases appearing in the table of statistics. Twenty-eight patients were received from other departments of the

hospital. It appears that in surgical and medical practice there often develop mental complications which are beyond the resources of a general hospital ward. This is an additional argument in the evolution of the idea for which Pavilion F stands as establishing more firmly the unity of mental and physical disease. There are a great many unfortunate people in the world who are doomed to mental deterioration and helplessness. They lack the inherent capacity of normal mental development, and some provision must be made for them; but there is also a large class of people who are subject to transitory attacks of disease in which both mental and physical symptoms appear. There is little in common between these two great groups of cases, except certain superficial appearances, and as observation is carried forward, it is difficult to say whether the mental or the physical symptoms of our patients receive the greater attention.

DISCHARGES.

Of the two hundred and ninety-four patients discharged, thirty-two recovered and one hundred and ten were improved. The percentage of cases distinctly benefited is forty-nine. Since the opening of the Pavilion the percentage of cases discharged as recovered and improved has been fifty-one. Of the twenty-one hundred and fifty-six patients admitted in the nine years, eleven hundred and forty-eight patients have returned to their homes with health restored. One hundred and twenty-one patients were discharged unimproved, and twenty-five died. The causes of death were: exhaustion of acute alcoholic delirium, three; tuberculosis, three; pneumonia, one; organic brain disease, three; heart disease, three; arterio-sclerosis, one; tetanus, one; locomotor ataxia, one; meningitis, two; general paralysis of the insane, one; drug poisoning, one; old age, two; exhaustion of acute mental disease, three.

ENDOWMENT.

The small endowment fund remains as before. It is to be hoped that increase in the hospital resources will soon provide for the maintenance of indigent patients beyond the demand upon the public funds. This need is particularly manifest in mental cases, many of whom are the victims of privation and

want. Restoration of mental health often follows the relief of physical distress, and here lies a particularly responsive opportunity to the assistance given by the charitably disposed. The removal of patients who are passing out of the acute attacks into a state of convalescence is unfortunate, and acts unfavorably; yet this is of frequent occurrence, and limits the usefulness of the Pavilion, and is a painful experience when it is known that the slight cost of a few weeks' care will secure the return of health.

FINANCIAL STATEMENT.

Received from public patients	$1,623 00
Received from private patients	8,815 95
Total	$10,438 95
The number of day's treatment	7,024
The average income for each patient per week	$10 41

ACKNOWLEDGMENT.

Our first acknowledgment should be to the work of the nurses upon whom falls the heavy responsibility of the care of patients who are so often unappreciative, and, in fact, unconscious of the strain and anxiety attendant upon their care. There has been no complaint of inattention on the part of patients, and there has been no reluctance on the part of nurses to fulfil every obligation. One of the most important, if not the most important, element in the treatment of mental cases is the sympathetic appreciation of their real needs.

We have also had occasion to make frequent demands upon the attending specialists of the hospital, and whenever assistance of this kind has been required it has been freely and uncomplainingly given.

The daily operation of the Pavilion rests largely upon the relations with the officials of the city and county. To the Commissioner of Charities and Corrections, Hon. William H. Storrs, is due more than formal acknowledgment of intelligent co-operation. Upon him frequently falls the duty of decision upon the merits of application for admission, and he has exer-

cised every care to protect the hospital from encroachment of misdemeanants whose vices are more in need of correction than the condition of their health.

The personal interest of our friends has been abundantly manifested. Shortly after the Pavilion was opened a book-case and books were presented to the men's ward by Dr. Henry Hun, and a similar gift was made to the women's ward by Mr. and Mrs. P. K. Dederick, Jr. These have proved most serviceable and are in constant use. Subscriptions to the *Argus, Munsey's Magazine, The Argosy, The Strand Magazine, The Ladies' Home Journal* and *Pearson's Magazine* have been continued by Mr. and Mrs. P. K. Dederick, Jr., and subscription to *McClure's Magazine* has been given by a "friend."

To Mrs. Martin H. Glynn we are again indebted to the liberal contribution of books for the library. These books include a number of the latest works of fiction, and are of a character best calculated to furnish diversion during the day. From Mrs. Farnsworth chrysanthemums have been received for the decoration of the ward and for the comfort of patients who are seriously prostrated; a potted plant was given by Mrs. Cuyler Reynolds, and bundles of magazines have been received from Mrs. F. C. Ham and Mrs. F. Thanhauser.

Clinical and Pathological Notes

Report of an Unusual Case of Tuberculosis. By SAMUEL B. WARD, M. D.

This case presents two features so unusual that it seems worth while to put it on record.

On the morning of October 16, 1910, I was asked by Dr. Wm. S. Bristol, of this city, to see with him a case of hemoptysis. We met at the bedside at ten A. M. The patient was a young man, 16 years old, a student, well nourished, whose health up to that morning had, from his own account, and that of his family, been uniformly good. Though a good and successful student he was also something of an athlete, and on the previous afternoon had engaged in a boxing bout with a companion, in which he was not worsted. Careful inquiry elicited the repeated statement that he had received no blow on the face, chest, or

elsewhere of any account. He had been subject to attacks of epistaxis, some of them pretty severe, for several years, but none on that day. He assisted his father in waiting on customers in his store up to 11 P. M., ate a good supper and went to bed feeling in his usual good health. His brother, who slept in the room with him, stated that he heard him cough once or twice during the night, but the patient himself was not aware of it. He had a mild attack of grippe about three months ago, from which he had recovered entirely except for slight hacking cough at times, unaccompanied by expectoration. He had diphtheria five years ago from which he recovered completely.

At seven o'clock this morning the boy was awakened from a sound sleep by blood coming from his mouth. Dr. Bristol was called at once, was at his side within fifteen minutes and saw all the blood that had been received in the vessel at the side of the bed, amounting to at least a pint.

The boy stated that the blood came at first in black clots and later some red, liquid blood. The physician, the patient and the family all agreed positively in the statement that there was absolutely no frothy blood at any time and there were no air bubbles in the clots which I myself saw three hours later. The hemorrhage was entirely over in five or ten minutes.

I found the patient lying on his back in bed, and he said that he was sleeping in that position when the hemorrhage came on. He said that at first the blood simply gushed from his mouth, with no cough at all, but later he had a slight cough. He was quite composed and cheerful, had had no chill, nor sweat, extremities warm, and answered questions promptly and naturally. His temperature was 96.4°; pulse 110; respirations 22. He had had a small hypodermic of morphine and atropine, and had been kept perfectly quiet. Under the circumstances it was not deemed wise to make an extended examination of the chest, but a short investigation of the anterior surface showed no dullness on light percussion and absolutely no moist râles such as are usually heard after a pulmonary hemorrhage.

Of course the first question was as to the source of the hemorrhage. He was subject to frequent bleedings from the nose and had been lying on his back so that blood could easily collect in the fauces and be ejected in clots from the mouth, while part of it might have trickled down under the epiglottis and been

coughed up later. The objection to this theory was that when he leaned over the side of the bed no blood ran from his nose. This might have been due to a clot forming in such position as to occlude the nares. Also the hemorrhage was very rapid for an epistaxis and ceased sooner than nose-bleeds generally do.

The blood could not have come from the stomach, for the patient and all observers agreed that there had been no nausea or vomiting, and the blood did not present the appearance of an hæmatemesis.

The blood coming in dark clots, the entire absence of any froth whatever, and the absence of moist râles in the chest seemed to militate against the view that the hemorrhage was pulmonary. It has been my lot to see quite a number of hemorrhages from the lungs, and I had never seen one in which the blood was not bright red, frothy, and liquid. Since that time I have looked into a number of medical authorities and the testimony is unanimous that such is the character of the blood. One single authority, Anders, says: "A rare exception to the rule may be noted in case of hemorrhage from a large cavity, the blood pouring forth in a free, dark stream." But here was a boy who had neither lost weight nor strength, and who had not been ill for a single hour. How was it possible that he should have a large cavity?

The next day, October 17, he had a hemorrhage of 8 ounces at 1:00 A. M., and another at 3:00 P. M. of 4 ounces. At 5:00 P. M. Dr. E. E. Hinman saw him and after examining his throat and nose, and taking into consideration the history of the case, was of the opinion that the blood probably came from the posterior nares. At that time the whole left chest was dull on percussion, did not expand on inspiration, and breath sounds were entirely absent except in a small area over the left primary bronchus. His temperature was then 103.0°; pulse 130; respirations 38. His systolic blood pressure was 115 mm.

October 18 at 10:30 A. M. his temperature was 102.9°; pulse 120; respirations 30. The left chest did not expand on inspiration, but the percussion note was everywhere tympanitic and breath-sounds exceedingly faint. He evidently had a pneumothorax. At 8:00 P. M. his temperature was 103.9°, pulse 130, respirations 32.

October 19, fourth day. At 10:30 A. M. his temperature was

102.2°; pulse 100; respirations 28. He had a good night and expressed himself as feeling decidedly better. An examination of the chest, without changing his position or disturbing him too much, showed the right chest normal. The left chest was resonant everywhere, but not tympanitic as yesterday, and breath-sounds much plainer. Evidently the air in the pleura was being absorbed. Over the right primary bronchus was a distinct blowing sound with expiration, as of air passing an obstruction.

October 20, at 8:30 P. M., temperature 104.0°; pulse 130; respiration 38. No hemorrhage during the day.

October 21, at 8:00 A. M., temperature 100.0°; pulse 100; respiration 22. Had a good night and feeling better. 11:00 A. M., temperature 102.6°; pulse 100; respiration 33. Physical signs showed no important change. Sitting up in bed for a few moments brought on a slight hemorrhage of about two ounces. Dr. Bristol, Dr. Hinman, and myself all saw it. The blood was dark and clotted, none of it was bright red, there were absolutely no frothy portions, and there was almost no cough. Dr. Hinman made an examination at once, and could find no bleeding point in the nose, pharnyx, or naso-pharynx. It would seem that the blood must come from below the larynx, although it was still all dark and clotted. At 5:00 P. M. he had another hemorrhage of about four ounces, no part of which was bright red or frothy.

October 22, at 5:00 P. M., had another hemorrhage of about four ounces, a part of which was distinctly frothy.

October 23, at 5:00 A. M., Dr. Bristol was called, reached the patient within ten minutes, and found him dead, after a large hemorrhage.

An examination of the chest was kindly permitted by the family and made by Dr. Ordway, Director of the Bender Laboratory, on the afternoon of October 24.

The main points developed were these:

The test for air in the thoracic cavity by the usual method was negative.

Chest.—Pericardial cavity is normally smooth, moist, and glistening. Heart, size and weight normal (estimation). Epicardium, myocardium, endocardium, normal.

Pleural cavities.—The right pleural cavity is normally smooth,

moist, and glistening. Left pleural cavity, at the level of the third rib in the anterior axillary line is a firm fibrous band about 1 cm. in length and 1 cm. in diameter, binding the lung to the adjacent parietal pleura.

Lungs.—Both lungs are voluminous and of a general grey to pinkish color with slightly black mottling. The left lung is crepitant throughout except near the hilus, where there are a few small areas of consolidation. Along the border the crepitation is diminished. It has a leathery dough-like consistence, the air runs from place to place beneath the palpating fingers. The right lung is entirely solidified; there is, however, slight crepitation.

At the base of the adhesions above referred to, is a small opening 0.4 cm. in diameter with everted edges which are stained with altered blood. About this opening there is an irregular tear in the pleura produced in removing the lung. On palpation the entire lung has a fine, to coarsely nodular, feel. In the region of the opening and tags of adhesions above referred to, the resistance is lessened (see below). Longitudinal frontal section of the entire lung;—the surface of section shows the following appearance:

Scattered throughout, yellow and reddish puncta, with surrounding area of consolidation, are thickly studded over the surface. The bronchial glands are considerably enlarged and show numerous yellowish caseated areas from two-tenths to five centimeters in diameter. About the hilus of the lung, and scattered indefinitely about the larger branches of the bronchi, the yellowish puncta are thickly scattered and the surrounding consolidated tissue has a general greenish grey color. Elsewhere the surfaces are markedly reddened and nodular. From the cut surfaces of the vessels and branches of the bronchi project reddish mases of blood clot. These entirely occlude many of the bronchi.

On the rest of the surface of section, toward the upper and outer part of the upper lobe, at the inner and lower portion of the lower lobe, and the outer and lower portion of the lower lobe, are all ill-defined areas about three to four centimeters in diameter of a somewhat greyish red color, in contrast to the markedly reddened, nodular surrounding surface.

Transverse section of the upper lobe at the level of the open-

ing, on the outer surface above described, discloses a large cavity 5x4x4 cm. in diameter. This is directly continuous with the opening above mentioned, at the base of the bands of adhesions. The cavity is partially filled with soft dark clotted blood. The walls are irregular, roughened, and a large blood stained branch of the pulmonary artery runs directly through the cavity and is buried in the darkened blood clot above referred to.

"Anatomical Diagnosis.

Acute miliary tuberculosis of the left lung.

Chronic ulcerative pulmonary tuberculosis with cavity formation and hemorrhage.

Acute broncho-pneumonia.

Chronic tuberculous adenitis with caseation.

Chronic tuberculous broncho-pneumonia.

Focal chronic pleuritis.

Emphysema (right lung)."

The noteworthy features of this case are these:

First.—An athletic young man, apparently in perfect health and strength on October 15, dies on October 23, the autopsy showing that the left lung is fairly packed with miliary tubercles.

Second.—This apparently healthy young man had also a large cavity in one lung, the existence of which there had been no reason to suspect.

Third.—Large and repeated hemorrhages, not frothy or bright red, but dark and clotted, may come from the lung.

Editorial

In March, 1817, Lord Holland made a solemn appeal to the British Parliament on the subject of Napoleon's treatment, and was answered by Lord Bathurst—in such a manner that not one could be found to second him. The intelligence of this appears to have exerted a powerful influence on the spirits of the captive. It was about the 25th of September, 1818, that his health began to be affected in a manner sufficient to excite alarm in Dr. O'Meara, who informed him, that unless he took regular exercise out of doors (which of late

he had seldom done), the progress of the evil would be rapid. Napoleon declared, in answer, that he would never more take exercise while exposed to the challenge of sentinels. The physician stated, that if he persisted, the end would be fatal. "I shall have this consolation at least," answered he, "that my death will be an eternal dishonor to the English nation, who sent me to this climate to die under the hands of * * * ." O'Meara again represented the consequences of his obstinacy. "That which is written, is written," said Napoleon, looking up, "our days are reckoned."

Shortly after this, O'Meara—being detected in a suspicious correspondence with one Holmes, Napoleon's pecuniary agent in London—was sent home by Sir Hudson Lowe; and Napoleon declining to receive any physician of the governor's nomination instead, an Italian, by name Antommarchi, was sent out by his sister Pauline. With this doctor there came also two Italian priests, whose presence Napoleon himself had solicited, and selected by his uncle, Cardinal Fesch.

His obstinate refusal to take bodily exercise might have sprung in some measure from internal and indescribable sensations. To all Antommarchi's medical prescriptions, he opposed the like determination. "Doctor," he said (14th October, 1820), "no physicking; we are a machine made to live; we are organized for that purpose, and such is our nature; do not counteract the living principle—let it alone—leave it the liberty of self-defence—it will do better than your drugs. Our body is a watch, intended to go for a given time. The watchmaker cannot open it, and must work at random. For once that he relieves or assists it by his crooked instruments, he injures it ten times, and at last destroys it."

[JOHN GIBSON LOCKHART.

The History of Napoleon Buonaparte.

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Photographing the Fundus of the Eye.

The difficult achievement of photographing the fundus of the eye has been attained with a reasonable measure of success. The first attempts in this direction, it is creditable to repeat, were made in this country by NOYES, as far back as 1862, and among the twelve men who have contributed to this study, three other Americans have been prominent: JACKSON

and WEBSTER in 1886, and LUCIEN HOWE in 1887. In the *Wiener klinische Wochenschrift* of July 20, 1911, Professor F. DIMMER describes the apparatus and the method of its use, with which satisfactory results have been reached. The operation, it is needless to say, is extremely delicate, for the photographic negative must not be exposed to the effects of the ocular reflexes, which, even in the simpler procedures of ophthalmoscopy, often prevent investigation. This may be understood from the fact that a strong light is required for the exposure, which must be made quickly, and at the instant when the desired result promises to be attained.

The apparatus used by DIMMER consists of two parts, for illumination, and for registration, respectively. The axes of these two systems are practically at right angles. An arc lamp of thirty amperes is the source of light, combined with a condenser and a water-chamber. By the condenser the light is reflected upon the plane of a right-angled shutter provided with two openings, one free and the other closed with darkened glass. The converging rays are reflected by a mirror, lying immediately in front of the eye. By this and a further arrangement of lenses, the light thus thrown into the eye is finally registered upon the negative in the camera. The patient sits at a table with eye adjusted to the apparatus, the pupil having been artificially dilated with homatropin. The exposure is measured to one-twentieth of a second, and the enlargement of the picture is from threefold to fourfold, the resulting photograph being from five to six times the diameter of the pupil. The size of the photograph is thirty-five millimetres, and this may, of course, be enlarged. The outer margin may be more or less indistinct, particularly if the pupil be not widely dilated, whereas, on the other hand, the central parts may be somewhat overexposed, especially those showing medullated nerve fibres, relatively extensive areas of chorioid atrophy and the like. Subsequent treatment is necessary, and this may be accomplished by touching up an overlying glass plate with powdered graphite.

Professor DIMMER does not regard the process as difficult. The apparatus is somewhat costly, but when properly adjusted the photograph may be easily taken, as the technique is simple and to be acquired even by a layman.

Public Health

Edited by Joseph D. Craig, M. D.

ABSTRACT OF VITAL STATISTICS, SEPTEMBER, 1911.
DEPARTMENT OF HEALTH—ALBANY, N. Y.

Consumption	17
Typhoid fever	4
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	4
Grippe	0
Diarrheal diseases	4
Pneumonia	2
Broncho-pneumonia	1
Bright's disease	23
Apoplexy	7
Cancer	8
Accidents and violence	13
Deaths over seventy years	16
Deaths under one year	26
Total deaths	146
Death rate	17.75
Death rate less non-residents	14.83

Deaths in Institutions.	Resident.	Non-resident.
Albany Hospital	5	8
Albany Orphan Asylum	0	0
Child's Hospital	0	1
County House	1	1
Dominican Convent	0	1
Homeopathic Hospital	6	1
Hospital for Incurables	0	0
Little Sisters of the Poor	0	0
Public Places	3	1
Penitentiary	1	0
St. Margaret's House	2	2
St. Peter's Hospital	6	5
Sacred Heart Convent	1	0
Austin Maternity Hospital	3	1
Albany Hospital, Tuberculosis Pavilion	4	1
Confederation of Labor	0	0
Total	32	22
Births	95	
Still births	5	
Premature births	1	

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	33
Scarlet fever	2
Diphtheria and croup	19
Chickenpox	2
Measles	0
Whooping-cough	0
Consumption	22
Total	78

Contagious Disease in Relation to Public Schools.

	Reported. D.	Reported. S.F.	Deaths. D.	Deaths. S.F.
Public School No. 1	1	..	..	..
Public School No. 2	2	1	1	..
Public School No. 10	2	..	..	..
Public School No. 17	1	..	..	..
Public School No. 21	1	..	..	..
Public School No. 22	2	..	1	..
St. Joseph's Academy	1	..	..	..
Cathedral School	1	..	..	..
Lady of Angels School	1	..	..	..

Number of days quarantine for diphtheria:

Longest.... 23 Shortest.... 4 Average.... 12 11-13

Number of days quarantine for scarlet fever:

Longest.... 23 Shortest.... 9 Average.... 20 1-2

Fumigations:

Houses..... 32 Rooms..... 132

Cases of diphtheria reported	19
Cases of diphtheria in which antitoxin was used	19
Cases in which antitoxin was not used	0
Deaths after use of antitoxin	4

BENDER REPORT ON TUBERCULOSIS.

Positive	9
Negative	13
Failel	0
Total	22
Living cases on record September 1, 1911	361

Cases reported during September, 1911:

By telephone	0	
By Bender	0	
By card	17	
		17
Dead cases by certificate		5
		22
		383

Dead cases previously reported	12	
Dead cases not previously reported	0	
Duplicates	0	
Recovered	0	
Removed	2	
Unaccounted for	2	
		19
Living cases on record October 1, 1911		364
Total tuberculosis death certificates filed during September, 1911		17
Out of town cases dying in Albany:		
County Hospital	1	
Albany Hospital, Tuberculosis Pavilion	1	2
Net city tuberculosis deaths		15

BUREAU OF PATHOLOGY.

Bender Laboratory Report on Diphtheria.

Initial positive	15
Initial negative	22
Release positive	7
Release negative	19
Failed	17
Total	80
Test of sputum for tuberculosis:	
Initial positive	12
Initial negative	18
Failed	1

BUREAU OF MARKETS.

Market reinspections	117
Public market inspections	27
Fish market inspections	6
Pork packing house inspections	2
Rendering establishment inspections	2
Slaughter house inspections	4

MISCELLANEOUS.

Mercantile certificates issued to children	70
Factory certificates isued to children	23
Children's birth records on file	93
Number of written complaints of nuisances	50
Privy vaults	8
Closets	4
Plumbing	15
Other miscellaneous complaints	23
Cases assigned to health physicians	62
Calls made	154

Society Proceedings

Medical Society of the County of Albany

Memorial Meeting—William P. Brierley, M. D.

Special meeting of the Medical Society of the County of Albany called June 24, 1911, at the Albany Medical College to take action on the death by accident of Dr. William P. Brierley.

Those present were Drs. Keough, Lothridge, Blatner, C. G. Hacker, Craig, Lochner, Cook, Ullman, George, C. H. Moore, Corning, Houghton, Bellin, Draper.

Meeting was called to order by Vice-President Keough. On motion Drs. Lothridge, Lochner and Cook were appointed a committee to draw suitable resolutions.

Drs. Ullman and Craig spoke about their acquaintance with Dr. Brierley and their most pleasant relations with and memories of him.

The following resolution was adopted:

Whereas, The members of the Albany County Medical Society have learned with profound sorrow of the recent decease under distressing circumstances, and while in the active discharge of his professional duty, of their late esteemed fellow member, Dr. William P. Brierley, and

Whereas, It is meet that this Society should give formal expression to the reflections irresistibly excited by our late colleague's untimely death, both as a tribute of personal regard and a testimony of appreciation of his worth as a man, a citizen and a physician, therefore, be it

Resolved, That while fully realizing and deploring the serious loss to our profession and the community at large we recall with unfeigned satisfaction our late brother's many admirable traits of character. His modest, manly, unassuming demeanor and unfailing optimism, his manifold interest in all that concerns human kind, his sound professional knowledge and practised skill, which together with his constant and active but unpretentious charity and his devotion to the highest professional ideals, wrought a well rounded synthesis of character and achievement. And be it further

Resolved, That this expression of sorrow and sympathy be sent to Dr. Brierley's family and also be spread upon the official minutes of this Society.

(Signed) W. E. Lothridge,
D. H. Cook,
G. E. Lochner.

The meeting was then adjourned upon motion.

M. J. Keough, *Vice-President.*

Edwin L. Draper, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nursing—Statistics for September, 1911.—Number of new cases, 159; classified as follows: Dispensary patients receiving home care, 23; district cases reported by health physicians, 9; charity cases reported by other physicians, 29; moderate income patients, 84; old cases still under treatment, 132; total number of cases under nursing care during month, 291. Classification of diseases for the new cases: Medical, 59; surgical, 5; gynecological, 4; obstetrical under professional care, mothers, 40; infants, 38; eye and ear, 1; skin, 0; throat and nose, 0; dental, 0; infectious diseases in the medical list, 5; infectious diseases in the surgical list 0; removed to hospitals, 10; deaths, 9.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 1; medical students in attendance, 2; Guild nurses in attendance, 5; number of patients carried over, 3; number of new patients, 3; number of patients discharged, 6; visits by head obstetrician, 0; visits by attending obstetrician, 1; visits by students, 55; visits by nurses, 56; total number of visits for this department, 112.

Visits of Guild Nurses (all departments).—Number of visits with nursing treatment, 1,318; for professional supervision of convalescents, 414; total number of visits, 1,732; cases reported to the Guild by 5 health physicians and 35 other physicians; graduate nurses 8, and pupil nurses 11 on duty.

Dispensary Report.—Number of clinics held, 78; number of new patients, 127; number of old patients, 395. Classification of clinics: Surgical, 4; nose and throat, 4; eye and ear, 15; lung, 6; dental, 1; nervous, 2; skin and genito urinary, 8; stomach, 0; medical, 12; children, 13; gynecological, 6.

Albany Hospital.—The class of nineteen hundred and eleven of the Albany Hospital Nurse Training School held their graduating exercises and reception at the Nurses' Home, Albany Hospital, Wednesday, September 27, at 3 o'clock.

Medical Society of the County of Schenectady.—The regular meeting of the Medical Society of the County of Schenectady was held at the County Court House, Tuesday, October 10, 1911, at 8.30 p. m. Dr. Lewis Faust spoke on "The Delivery of the Placenta." Dr. H. B. Groesbeck read a paper on the "Pelvic Surgery in Relation to Periodic Headache and Neuralgia."

Third District Branch.—The Third District Branch of the Medical Society of the State of New York met at the City Hall, Kingston, N. Y., October 3, 1911, The morning session opened at 9.30 a. m. Visits were then made to the City Hospital, Tuberculosis Hospital and Camp. At 11 a. m., demonstrations in "Cystoscopy," at Benedictine

Sanitarium by Dr. James N. Vander Veer, Albany, and of "Medical and Surgical Patients," by local physicians. Luncheon was served at Benedictine Sanitarium at 12 M.

1.30 P. M. opened the afternoon session, with the meeting of the delegates. President Dr. Mark O'Meara, Kingston, addressed the meeting with "The Role of the Smaller Hospital." Drs. Andrew MacFarlane and Arthur F. Holding, Albany, spoke on "Radiography in Physical Diagnosis." Dr. E. E. Norwood, Kingston, opened Discussion. Dr. Christian G. Hacker, Albany, spoke on the "Bullet Wound of the Abdomen," reporting a case of Bullet Wound of Sigmoid and Bladder during acute Exacerbation of a Chronic Appendicitis."

The following papers were read: "Actual Condition of Vascular Surgery," Dr. Alexis Carrel, Rockefeller Institute, New York; "Psychotherapy in Organic Disease," Dr. James J. Walsh, New York City, Discussion opened by Dr. Albert Vander Veer, Albany; "Chorio-Epithelioma," Dr. C. O. Kepler, Boston; Discussion opened by Mary Gage-Day, M. D., Kingston; "Medical Ethics," by Dr. Wisner R. Townsend, New York City; Discussion opened by Dr. Frederick Snyder, Kingston.

The evening session was opened at the Y. M. C. A. Hall, at 8.15 P. M. Public Health Meeting under the auspices of the Third District Branch of the Medical Society of the State of New York, The Medical Society of the County of Ulster, and the Public Health Committee of the Federation of Woman's Clubs. Dr. William A. Howe, Deputy Commissioner of Health, Albany, spoke on the plan of "Co-operation of the State Department of Health with County Medical Societies and other Agencies for the Promotion of Public Health." Dr. V. A. Moore, Cornell University, gave an illustrated lecture on "The Service of Biology in the Prevention and Cure of Infectious Diseases."

An informal reception was tendered the newly elected officers

The New York State Nurses' Association met in the Assembly room at the Capitol, Albany, on October 18 and 19. Among the features of the program were "Modern Problems in Infant Feeding," by Dr. Henry L. K. Shaw, of Albany. Miss Susan E. Tracy gave a demonstration of the "Children's Occupation Exhibit." An address was given by Dr. Augustus S. Dowling on "The Nurse Practice Art and Its Administration." "The Professional Spirit" was read by Miss M. Adelaid Nutting, of Columbia University. "The Opportunities and Need of Nurses Trained for Social Service in Small Cities," Miss Anna McGee, of Schenectady. "District Nursing in Westchester County," Mrs. Ralph Waldo Trine, of Croton-on-Hudson. "Little Mothers," Dr. S. J. Barker, of the New York City Health Department. "The Training of Nurses in Mental Affection," Dr. J. M. Mosher, Albany.

Typhoid Fever in Philadelphia.—Dr. J. S. Neff, Director of Public Health, has ordered that all houses containing cases of typhoid must be placarded. Milk regulations and care of used receptacles have been used for some time.

Granville Medical Society Mass Meeting,—The Washington County Medical Society met at Granville, October 21, at 10 A. M. There were three sessions, the evening one consisting of a mass meeting at the High School building at which Dr. Charles S. Prest. of the State Board of Health, gave an illustrated address on "Carriers of Disease." Among the speakers of the day were Drs. McKenzie, R. C. Davies, Henry Lewis, W. A. Tenney, J. P. Marsh, T. E. Hull.

Macdonald Pavilion at Raybrook.—On September 26, two new pavilions were opened at Raybrook State Hospital for Incipient Tuberculosis. One in memory of the late Dr. Willis G. Macdonald, of Albany, and the other for Dr. John H. Pryor, of Buffalo. The capacity of the institution is doubled, making it possible to care for 600 patients annually.

The Medical Section of the American Life Convention held its annual meeting at the Hotel Schenley, at Pittsburgh, on September 20, the day before the opening of the convention. The following papers of interest to Medical Directors and Life Insurance Examiners were read: "The Transmission of Tuberculosis During Fetal Life," by Dr. Harold A. Miller, Medical Director Pittsburgh Life and Trust Company. Dr. V. E. Vaughan, Jr., Associated Medical Director Michigan State Life Insurance Company, opened the Discussion. "The Healed Tuberculosis Lesion from a Life Insurance Standpoint," Dr. George W. Parker, Medical Director of the Peoria Life Insurance Co. "Nervous Diseases as Applied to Life Insurance," by Dr. John S. Turner, Medical Director Great Southern Life Insurance Co., Houston, Texas.

The Twelfth New York State Conference of Charities and Corrections was held at Watertown, N. Y., October 17, 18 and 19, 1911. Rev. M. R. Burns opened the session with prayer. Addresses of welcome were given by Hon. Francis M. Hugo, mayor, and Mr. Francis E. Cullen, after which President Dr. Max Landsberg also addressed the meeting. Mr. Stephen Smith paid a Memorial Tribute to William Pryor Letchworth. Rev. Harry Westbrook Reed gave benediction. The following papers of interest were read: "Public Outdoor Relief," by Hon. Robert W. Hebbard, Secretary of the State Board of Charities, Mr. Frederick Almy, Secretary of the Associated Charities of Buffalo, opening the discussion on this paper. "State Responsibility in Vocational Guidance and Vocational Education," was presented by Prof. A. D. Dean, Chief of the Division of Vocational Schools of the Department of Education of the State of New York. Discussions by Dr. E. T. Devine, General Secretary of the Charity Organization Society. "Unrestricted Forms of Child Labor in New York State," Mr. George H. Hall, Secretary of the New York Child Labor Committee. "Working Papers," by Miss Pauline Goldmark. "A Program of Sex Education," by Dr. Ira M. Wile, of New York City, and Dr. A. L. Beahan, of Canandaigua, N. Y., opened the discussion on this paper. "Relation of the Obstetrician to a Program of Sex Education," by Dr. Paul T. Harper, of Albany. "The Treatment of Defective Delinquents Outside of Insti-

tutions," by Mr. Arthur W. Towne, Secretary of the New York State Probation Commissions, and discussed by Mrs. Jane L. Armstrong, President of the Board of Managers of the Western Refuge House for Women, and others. "The Basic Principles Underlying an Efficient Inspection of Child Caring Institutions," by Dr. Hastings S. Hart, Director of the Child Helping Department of the Russell Sage Foundation. "The Efficient Cottage Mother," by Charles H. Johnson, Superintendent of the Albany Orphan Asylum. Dr. Bernstein, Superintendent of the Hebrew Sheltering Guardian Orphan Asylum, conducted the final session of the Committee on Children.

A Meeting of the Stewards of Charity Institutions arranged by Hon. Dennis McCarthy, met at the State Capitol, October 24 and 25. The following subjects were discussed: "The Economics of the Institutional Dietary," by Miss Florence R. Corbett, Columbia University. "Food Waste, Its Principal Source and Some Methods of Control," by Mrs. Mary H. Moran, Director New England Kitchen, Boston. "Basic Dietary Ration." "Fables and Waste Accountant System," by Mr. Charles S. Pitcher, Kings Park State Hospital. "Cold Storage Foods," by Assemblyman Thomas A. Brennan.

Personals.—Dr. Frederick I. Jansen (A. M. C.'98), has left Fonda, N. Y., to practice at 431 Judge Building, Salt Lake City, Utah.

—Dr. Roy L. Leak (A. M. C. '98). of Ogdensburg State Hospital, has been appointed second assistant physician at the Matteawan State Hospital.

—Dr. Fred E. Lettice (A. M. C. '02), has resigned as attending physician to Sing Sing prison, Ossining, N. Y.

—Dr. Arthur T. Laird has been appointed Secretary and Superintendent of St. Louis Sanitarium Commission, and is now located in Duluth, Minn.

—Dr. Harley Heath (A. M. C. '09), has been appointed physician to the Great Meadow Prison, Comstock, N. Y.

—Dr. William D. Aldrich (A. M. C. '10), is assisting Dr. James N. Vander Veer.

—Dr. William D. Allen (A. M. C. '10), is assisting at the Bender Laboratory.

—Dr. Wardner D. Ayer (A. M. C. '10), has been appointed assistant at the Bender Laboratory.

—Dr. Richard B Gray (A. M. C. '10), of 36 Clinton avenue, Albany, N. Y., has been appointed assistant in Department of Microscopy and Pharmacognacy at the Albany College of Pharmacy.

—Dr. Charles F. Myers (A. M. C. '10), has opened an office at 116 Central avenue, Albany, N. Y,

—Dr. Thomas Ordway.—On October 17, Dr. Thomas Ordway, of the Bender Laboratory, was given a dinner at the Hotel Hampton, about fifty of his professional friends being present. Dr. Ordway goes to Boston on a year's leave of absence and while there will have charge of the Cancer Laboratory connected with Harvard University.

—Dr. Cyrus S. Merrill and Dr. C. H. Moore have removed from 21 Washington evenue to 27 S. Hawk street, Albany, N. Y.

DIED.—Dr. CHRISTOPHER C. REID (A. M. C. '64), a member of the Medical Society of the State of New York, one of the founders of the Oneida County Medical Society, and first president of the Rome Medical Society, examining surgeon for the New York Central Lines for twenty-five years, consulting physician to the Rome Hospital, and one of the incorporators of the Rome Home for the Aged, Indigent and Infirm, donor of the Nurses' Home and the new operating room to the Rome Hospital, died at his home in that city, aged 72.

—Dr. CORNELIUS DEBAUN (A. M. C. '87), for six terms coroner of Montgomery County, N. Y., died at his home in Fonda. N. Y., August 18, from cerebral hemorrhage, aged 46.

—Dr. JOHN ARCHIBALD WILDER (A. M. C. '95), of Denver, a member of the Colorado State Medical Society, American Climatological Society, National Association for the Study and Prevention of Tuberculosis, Professor of Pathology of the University of Denver, and Pathologist to St. Luke's and St. Joseph's Hospitals, for two years assistant at the Saranac Lake Sanitarium, died at the home of his mother at Hoosick Falls, N. Y., September 14, from pulmonary tuberculosis, from which he had suffered for fifteen years, aged 40.

—Dr. JEHIEL LEFLER (A. M. C. '64), died at his home in Johnstown, N. Y., October 23, 1911, aged 68.

—Dr. JOHN A. WARNER (A. M. C. '47), died at his home in Saratoga Springs, N. Y., October 23, 1911, aged 88.

In Memoriam

JAMES G. W. ENTWISTLE, M. D.

Dr. ENTWISTLE was born January, 1842, in Bronxdale, Westchester county, and now included in the borough of Bronx while his birthplace and playground are included in the beautiful Bronx park. His parents were Mary Booth and William Entwistle of Bolton, England, the Entwistles being of ancient and honored lineage. He moved with his parents to Troy, N. Y., about 1853, receiving his education partly in both places and finished with an academic course in Claverack, N. Y. He married Miss Maggie L. McCall, in Canton, Ill., where he died September 1, 1911, of a serious form of anemia. He moved to Troy, N. Y., in 1880, when he entered the Albany Medical College, graduating with the class of 1883, and left Troy for Chicago in 1890 where he afterward lived and practiced. Dr. Entwistle possessed many of the qualities of the ideal physician; he was that rara avis, a student, a thinker. He was a wide reader and seemed able to cull and assimilate that which was of worth and ignore the dress or verbiage. This same analytic acumen served him well as a physician. He seemed to possess an innate or intuitive knowledge of the value of a therapeutical remedy so that he was able to use the same in the individual case with benefit, rather than

as an experiment. As a diagnostician, he certainly had few peers. Letters from a multitude of patients form the basis of that assertion. As he was naturally so inclined, he took chronic diseases as his specialty, with such remarkable success as is meted out to but few. He was kindly generous, so his patients became his friends, making the relationship mutual. He was honest to the core, clear of mind and clean of character. A credit to his alma mater which he cherished and honored with much affection. Next to his family, his profession received his devotion and many mourn with us the passing of a good man.

Herbert A. Bayard, M. D.

Dr. Herbert A. Bayard, Health Officer of Cornwall-on-the-Hudson, New York, and a graduate of the Albany Medical College in the class of 1889, died at his home August 31, 1911, aged 42.

After graduation, Dr. Bayard took a post-graduate course at the New York Polyclinic, and for two months was in old Chambers Street Hospital, New York. He practiced for a short time in Poughkeepsie, N. Y., then removed to Albany, where he remained for seven years. In May, 1898, his uncle, Dr. A. L. Browne ('86) died at Cornwall-on-Hudson. He then took up practice at that place, and met with splendid success. In October, 1890, he married Miss Orlena A. Hunting, daughter of Dr. Nelson Hunting, of Albany, N. Y., and has been blessed with two children, boy seven years old, and a girl who died at the age of three and a half months. He was Albany county physician for two years; was a Mason; secretary of the Cornwall Board of Trade; treasurer of the Cornwall-on-Hudson Public Library; surgeon of the West Shore Railroad, and examiner for many insurance companies.

Dr. Bayard was historian of his class and attended the decennial reunions regularly. The class and the college are indebted to him for the faithfulness of his work and the care he gave to these records.

Robert E. Doran, M. D.

Dr. Robert E. Doran, Superintendent of the Long Island State Hospital, died at his official residence, 102 Lincoln Road, Brooklyn, on September 23rd from acute septic endocarditis superinduced by an attack of tonsilitis. He was born at Albany in 1870, and after his education in the public schools and graduation from the high school, matriculated under Dr. Albert Vander Veer at the Albany Medical College where he took the degree of M. D., in 1893. Dr. Doran then served for eighteen months as house physician and surgeon at the Albany Hospital. Following this he was appointed assistant physician at the Willard State Hospital in 1895 where he served with distinction until November, 1901, when he was promoted, after a competitive examination, to the position of First Assistant Physician at the Craig Colony for Epileptics at Sonyea, N. Y. Upon the promotion of Dr. William L. Russell, First Assistant at Willard, to Medical Inspector for the State Lunacy Com-

mission Dr. Doran was transferred in November, 1903, from Craig Colony to the Willard State Hospital where he served as First Assistant until August, 1910, when he was appointed Medical Inspector for the Lunacy Commission. During his service at Willard he attended post-graduate courses in psychiatry under Professor Adolf Meyer at the State Psychiatric Institute, New York City. He was appointed to the Superintendency of the Long Island State Hospital in May last.

In every field of endeavor Dr. Doran displayed skill and judgment of a high order. He embodied the attributes of physician, surgeon and psychiatrist, and had unusual executive ability. He had a deep insight into all the newer methods and theories applied to the study and treatment of mental disorders, but was eminently practical in his views concerning everything appertaining to the management of hospitals for the insane. As First Assistant at Willard—a position which he occupied for seven years—his duties were largely of an administrative and executive nature. He had general oversight of the clinical work and the ward services which, in an institution with 2,400 patients and 500 employees, carries with it a great responsibility. But he was equal to every emergency and on all occasions displayed rare judgment and tact. He rendered valuable services in connection with the training school for nurses. He was in full charge of the hospital for a period of two months in 1904 and again for a similar period in 1908 and on each occasion acquitted himself in a manner highly satisfactory to the Board of Managers and the State Lunacy Commission, thereby demonstrating his fitness for the position of Superintendent to which he was ultimately appointed in Brooklyn last May. His sterling personal qualities, integrity and exemplary habits inspired confidence and respect among his medical associates and the employees of the hospital.

Outside of medicine, he took a keen interest in astronomy and during his long residence at Willard was fond of observing the heavenly bodies, frequently deliberating upon their peculiarities and course. He was a lover of good books and was especially well versed in history and the classics.

> "The village all declar'd how much he knew;
> 'Twas certain he could write, and cipher too,
> Lands he could measure, terms and tides presage—
> And even the story ran that he could gauge."

Dr. Doran was a member of the Seneca County Medical Society, the Lake Keuka Medical and Surgical Association, the Medical Society of the State of New York, the American Medical Association and the American Medico-Psychological Association. He contributed a number of medical papers for these various Societies among which were the following:

"A Consideration of the Hereditary Factors in Epilepsy." Read at a meeting of the Willard State Hospital Medical Society, February 18, 1903. Published in the *American Journal of Insanity*, July, 1903.

"Some Modern Conceptions in Psychiatry." Read at meeting of Medical Society of the County of Seneca, May 13, 1909.

"A Comparison of Admissions to Hospitals in Metropolitan and Rural Districts." Read at Inter-hospital meeting held at Willard State Hospital, May 18, 1909. Published in the *State Hospitals Bulletin,* December, 1909.

"The Relation of Pregnancy, Childbirth and Lactation to Insanity." President's address at meeting of Medical Society of the County of Seneca, October 15, 1909.

"The Alcoholic Psychoses." Read at meeting of the Lake Keuka Medical Association, at Grove Springs, N. Y., July 2, 1910. Published, ALBANY MEDICAL ANNALS, September, 1910.

Dr. Doran was a Past Master of Union Lodge No. 114, F. and A. M., Past High Priest, Ovid Chapter No. 92, R. A. M., and a member of St. Augustine Commandery, Ithaca, N. Y.

In 1898 he married Miss Mabel Wark of Albany, by whom he had one son and two daughters. His wife and children survive him.

—ROBERT M. ELLIOTT.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

A Manual of Materia Medica. By E. QUIN THORNTON, M. D., Assistant Professor of Materia Medica in the Jefferson Medical College, Philadelphia. Octavo, 525 pages. Cloth, $3.50, *net.* Lea & Febiger, Philadelphia and New York, 1911.

There are still a few physicians in Philadelphia who have not their names on the title page of some medical valume. Several of our Quaker City brethren are the authors of a dozen or more, while apparently he who in Philadelphia has not enlightened the medical profession by some more or less pretentious literary effusion, is in the eyes of his fellow practitioners, not living up to the highest medical ideals.

Thornton's volume has many reasons for existing, but a large amount of the text does not supplant or add anything to the text books now in existence on the subject, the number of which is legion.

Part I of the book, as the author indicates in his preface, is devoted to the discussion of Posology, Prescription Writing, Incompatability and Weights and Measures.

Part II he devotes to the discussion of all drugs, chemicals and preparations official in the U. S. Pharmacopeia. Particular attention is given to official Latin and English names, synonyms, sources, physical properties, common incompatabilities, important constituents and to the ingredients of compound preparations.

Part III gives a complete list of the U. S. Pharmacopeial preparations, arranged according to pharmaceutical classes. The composition and methods of preparing them are stated. This part of the book being intended as a guide for students working in the laboratory of pharmacy.

In the appendix is given an alphabetical list of official substances with the average adult dose, after the method of the U. S. P. The article on prescription writing is short, yet fairly complete and concise.

The treatment of the Latin essentials in prescription writing is somewhat overdone, much of the material could, without fear of incompleteness, be relegated to the Latin grammars.

The subjects of Physical and Chemical incompatability are well treated, intelligible and interesting.

The author says the primary object of his manual is to be an aid to the Medical student in the laboratory and lecture room. In lectures on the subject he surely cannot follow the manual, taking up the drugs alphabetically after the manner of the Pharmacopeia, a volume with an entirely different scope and purpose. When a student studies a drug action he is aided by having the various remedial agents presented to him in groups or classes; it seems absurd that he should be forced to study them in an alphabetical order. This method holds the book open to the greatest criticisms and along with other texts treating the subject similarly, detracts very markedly from its value as a students' aid.

Thornton does not adhere to the pharmacopeial method of giving the average dose of a drug, but writes the minimum and maximum, which is not without considerable value. He discusses only one unofficial drug, namely, Erlich's Salvarsan. The two and one-half pages given to this preparation, treat the subject in a clear and concise manner, the various methods of the administration of the drug including, Wechselmann's, Alt's, Lesser's and Michaeli's, being especially complete.

The book would be much more valuable if the important, commonly-used, unofficial drugs were included in the text, since students are constantly hearing and reading of them. N. K. FROMM.

Merck's Manual of the Materia Medica. (Fourth edition.) A Ready Reference Pocket Book for the Physician and Surgeon. Containing a comprehensive list of Chemicals and Drugs—not confined to "Merck's"—with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of Therapeutic Indications, with interspersed paragraphs on Bedside Diagnosis, and a collection of Prescription Formulas, beginning under the indication "Abortion" and ending with "Yellow Fever;" a Classification of Medicaments; and Miscellany, comprising Poisoning and Its Treatment; and an extensive Dose Table; a chapter on Urinalysis, and various tables, etc. (Merck & Co., 45 Park Place, New York. 1911. 493 pages. Sent on receipt of forwarding charges of 10 cents, in stamps, to physicians, or to students enrolled in any College of Medicine, in the United States.)

The manual, printed on bible paper, of 493 pages, contains a comprehensive list of the names of the chemicals and drugs used in medical practice, with their synonyms, physical and chemical properties, per-

centage strength and physiological effects; likewise their therapeutic uses, modes of administration, doses, incompatibles and antidotes. A table of therapeutic indications, brief notes on bedside diagnosis and a large number of prescription formulas; a discussion of poisoning and its treatment, urinalysis, and a number of other useful tables.

The text of the previous issue of this little work has been largely revised and much new matter added. It is a book worthy of the publishers and although of limited scope is not without considerable value to the profession. The prescription formulas, especially worthy of mention, are complete, ethical and scientific. N. K. FROMM.

A Manual of Physical Diagnosis. By BREFNEY ROLPH O'REILLY, M. D., C. M., Demonstrator in Clinical Medicine and in Pathology, University of Toronto; Assistant Physician to St. Michael's Hospital, Toronto; Physician to Toronto Hospital for Incurables. Cloth. Six plates and forty-nine other illustrations. Philadelphia, P. Blakiston's Son & Co. 1911. Price, $2 net.

This manual of 360 pages, the author states is intended for the use of students, and for that reason the subject has been presented in the chronological order employed in the actual examination of the patient.

There are ten chapters as follows: The Introduction, The Clinical History, General Inspection, Special Inspection, Topographical Anatomy, The Respiratory System, The Circulatory System, The Digestive System, The Genito-Urinary System, and The Neuro-Muscular System. In all of the chapters the importance of inspection in the diagnosis of diseased conditions is emphasized.

The appendix contains excellent paragraphs on laboratory technic for the examination of urine, blood, sputum, gastric contents, and feces, and describes the methods required in the daily routine examinations by the clinicians of St. Michael's Hospital, Toronto.

The work is well illustrated, and should prove an excellent guide for the student in the study of physical diagnosis. T. L.

A Manual of Pathology and Morbid Anatomy. By T. HENRY GREEN, M. D., F. R. C. P., Consulting Physician to the Charing-Cross Hospital, etc., London. Revised and enlarged by W. CECIL BOSANQUET, M. A., M. D., F. R. C. P., Assistant Physician to the Charing-Cross Hospital, etc., London. Large 12mo, 642 pages, with 250 illustrations. Cloth, $4.50 net. Lea & Febiger, Publishers, Philadelphia and New York, 1911.

It is six years since the last edition of this work and the advances in pathology have necessitated many changes and additions. Among these may be mentioned the field of parasitology in which a whole new class, the spirochaetes, and many new facts in regard to the protozoa, and to chemical pathology have been added. It contains a new section of affections of the skin, and that on joints is more systematically described. There are several new illustrations.

In the arrangement of subjects parasites, as causes of disease, are placed before the disturbances to which they give rise; the difficult subject of tumors is considered after the more common phenomena of inflammation and repair.

The book is divided into two parts—general pathology, and diseases of the special tissues and organs. The former deals with the malformations, nutrition, calcification and pigmentation, hypertrophy, parasites, injury and repair, fever, infectious diseases, tumors, local disturbances of circulation, intoxications, auto-intoxications and intestinal diseases. In part two, diseases of connective tissue, joints, bones, lymphatic system, skin, mucous membranes, stomach, intestines, serous membranes, blood, heart, blood-vessels, respiratory organs, liver, pancreas, kidney and nervous system are described. These subjects are treated very concisely and in a clear and forcible way. Little attention, however, is given to histological detail—the microscopic changes being described in a very general way. Indeed, the book, as the title indicates, must be regarded as a working manual for students and not a comprehensive text or reference book. As such it would seem of distinct value to be used in conjunction with but not to replace the larger text and reference books on pathology.

T. O.

Golden Rules of Diagnosis and Treatment of Diseases. Aphorisms, Observations and Precepts on the Method of Examination and Diagnosis of Diseases, with Practical Rules for Proper Remedial Procedure. By HENRY A. CABLES, B. S., M. D. St. Louis, C. V. Mosby Company. Price, $2.50.

This is one of a "Medical Guide and Monograph Series" of which the one on Pediatrics is reviewed in this number of the ANNALS. The title suggests the thought as to what constitute "Golden Rules" in medicine. The dictionary tells us they are rules of conduct based on the biblical injunction of "doing unto others," etc. A few years ago a much afflicted patient wrote of his experiences with different doctors and various sects in a book entitled "Being Done Good." He evidently was not familiar with the practical application of the Golden Rule in medicine.

This book is really a compendium of useful hints on diagnosis and treatment of "internal" diseases founded on the experience and reading of the author. Only diseases of the thoracic and abdominal organs are considered with the exception of the constitutional diseases: Arthritis Deformans, Gout, and Diabetes Mellitus.

The author's aim is that this book will assist in making a correct diagnosis, indicate the proper therapeutic procedure and aid in fixing in the mind valuable information that can be readily recalled when needed.

H. L. K. S.

Golden Rules of Pediatrics. Aphorisms, Observations and Precepts on the Science and Art of Pediatrics giving Practical Rules for Diagnosis and Prognosis, the Essentials of Infant Feeding, and the Principles of Scientific Treatment, by JOHN ZAHORSKY, A. B., M. D., with an Introduction by E. W. Saunders, M. D. St. Louis, C. V. Mosby Company. Price, $2.50.

The title of this book apparently is taken from a small English work entitled "Golden Rules for Diseases of Children" written by Doctor George Carpenter some years ago. This, however, is a much larger and more elaborate treatise consisting of 284 pages.

The author's object as stated in the preface is to state practical points in a concise form. The author assumes responsibility for the choice of the propositions and for the mode of presenting them.

The book consists of five parts, Diagnosis; Prognosis; Hygiene and Infant Feeding; Treatment; Formularies.

The following quotations will give an idea of the so-called "rules."

"Do not forget to feel the pulse beat in every child; it makes you acquainted with the wide range in its variations."

"Do not mistake the gurgling sounds of the intestines for bronchial râles."

"It is possible in some children to hear the breath sounds with the stethoscope over the abdomen; in peritonitis this phenomenon may be very marked."

"Children apparently dying have gotten well. The last physician who attends gets the credit. The crisis is very uncertain, yet it may come at any time; watch for it; keep the patient alive until it comes."

"Remember that it took time for the manifestation of rickets to develop, and it will take time to produce a cure."

The young practitioner would find this book both interesting and instructive to glance over at odd moments and would glean many valuable practical suggestions. H. L. K. S.

Medical Electricity and Röntgen Rays. By SINCLAIR TOUSEY, A. M., M. D., Consulting Surgeon to St. Bartholomew's Clinic, New York City. Octavo of 1116 pages, with 750 illustrations, 16 in colors. Philadelphia and London: W. B. Saunders Company, 1910. Cloth, $7 net; Half Morocco, $8.50 net.

With the great advances in the science of electricity it is almost impossible for any text-book to keep abreast of the times; indeed, as Tousey says, it is hardly possible in a weekly magazine.

In this book the author has attempted to present systematically not only what has been done in this special field, but how to do it. Most of the illustrations are from radiographs made by the author. He considers static electricity in general, its physiological and therapeutic effects and dosage; the nature and sources of dynamic electricity, the measurements of electromotive force, resistance, etc., are discussed. The occurrence of electric phenomenon of animals and plants and the general

physiological effects of electricity on animal tissue including so-called electropathology is discussed. Under the latter Tousey considers lightning strokes, the effects of accident due to high tension currents and electric burns. Considerable space is devoted to electrical diagnosis and treatment in nervous diseases. In discussing therapeutic effects of high frequency currents, the so-called fulguration method is described and discussed. The newer work upon phototherapy includes the effects of various forms of light—incandescent, arc, ultraviolet and mercury vapor. The methods of application are given in some detail. The diagnostic and therapeutic value of the X-ray and its wide range of usefulness is shown. Particular attention is paid to the details of the technique as used and elaborated by the author. The general properties of radium, its physical, chemical and physiological properties and effects and its therapeutic application are described and discussed.

The chapters are broken up by heavy-faced type headings into many paragraphs and small sections which gives the book a "jerky" style and makes the transition from one section to another very abrupt. Although numerous references are given, it is often impossible to tell whether these refer to an entire book or mere statements, and in many places where but short accounts of results are given, more detailed reference would be desirable. Of course it is almost impossible to cover so large a field completely and some portions must necessarily seem limited. The book, however, may be regarded as a compendium of results and methods, which with the detail given should make it helpful as a book of reference. T. O.

Practical Cystoscopy and the Diagnosis of Surgical Diseases of the Kidneys and Urinary Bladder. By PAUL M. PILCHER, M. D. Consulting Surgeon to the Eastern Long Island Hospital. Octavo of 398 pages, with 233 illustrations, 29 in colors. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $5.50 net.

During the past ten years the study of diseases of the kidneys, uterus and urinary bladder has been greatly stimulated by the development of newer methods of diagnosis. The cystoscope has contributed largely to the advance which has been made and therefore this work upon the subject should meet with popular approval. In the first section of the work the various types of cystoscopes are described and their advantages and disadvantages discussed. The second section deals with the preparation of the patient for examination and the methods of using the various instruments. Then the various diseases of the bladder, prostate, ureters and the kidneys are discussed and the methods of diagnosis considered. The illustrations are excellent and the book is printed in an attractive form and well bound. It will prove to be a valuable addition to this special branch of surgical diagnosis and treatment. G. E. B.

Nephrocoloptosis. A Discussion of the Nephrocolic Ligament and its Action in the Explanation of Nephroptosis. By H. W. Longyear, M. D., of Detroit. With 88 special illustrations and a colored frontispiece. St. Louis, C. V. Mosby Co., 1910.

This monograph of 250 pages presents the views of the author on the etiology and treatment of nephroptosis and enteroptosis. He believes that in the nephrocolic ligament we find the principal factor in nephroptosis and that a nephroptosis, because of the action of this ligament, must always be secondary to a coloptosis. This fact explains the author's reason for the title of the book and the etiologic basis on which he treats the subject. The subject-matter is considered in six chapters. The first one treats of the anatomy and pathology of these conditions; the second, the etiology; the third, the symptomatology, and the fourth, the diagnosis. In the fifth chapter, the various forms of treatment are considered, including the mechanical, the topical and the operative. In the last chapter, he records 56 of his own personal cases. The work is well printed and the illustrations are exceptionally good. The book will be found of distinct value to the specialist in handling more intelligently this class of cases. G. E. B.

Spirochaetes. By W. Cecil Bosanquet, M. D., Fellow of the Royal College of Physicians, London. Octavo of 152 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Artistically bound, $2.50 net.

The appearance of this book is very opportune considering the immense interest which is being taken at present in the isolation and study of this apparently increasingly important, but so far little known, class of organisms, an interest which has been stimulated by the discovery by Schaudinn of an organism belonging to this class which he has assigned as the cause of syphilis. That this organism, Spirochaete pallida (Treponema pallidum) is definitely the cause of syphilis has been very generally accepted, but as pointed out by the author after a long discussion, "rigorous proof of causal connexion cannot be furnished" * * * "while there is a considerable probability that it is the infective agent in syphilis, its position is not yet established with absolute scientific certainty."

This book is the outcome, as the title shows, of a study of the literature bearing on the subject of spirochaetes. His abstracts have been combined in book form for the benefit of other workers as the literature is voluminous but very widely scattered. The book is divided into two sections, in the first of which the author has endeavored to establish the features characteristic of the genus, and in the second part he has dealt with the separate species with a brief description of the various organisms, the methods used in examining them, and their relation to disease. There follows a very complete but not exhaustive bibliography, divided by subject headings, bibliographic and subject indices. The book is well illustrated with an excellent colored plate and ninety figures in the text.

As the book is largely made up of abstracts from the literature in great part controversial in character, and as the author leaves the reader in most cases to draw his own conclusions, it leaves one in a very uncertain frame of mind in regard to many of the questions raised. This is particularly the case as the opportunities afforded the average reader for obtaining any first hand knowledge of the subject are so far very limited, and the differentiation of species is so far principally a question of morphology. As yet, barring some very recent and so far unconfirmed work, all efforts to cultivate spirochaetes has proven unsuccessful. Then, too. according to some investigators, even the morphology of some species is not constant.

The uncertainty of our knowledge concerning spirochaetes is in no way so well shown as by the fact that it is not yet determined whether they should be classified with the bacteria or the protozoa. The author regards them as being more nearly allied to the former than the latter.

Every contribution to our knowledge of these little understood organisms is very welcome in its present chaotic state, and this excellent summary of the extant literature on the subject cannot fail to help in the more general spread of what knowledge we now possess. It is an excellent and very timely work. C. K. W., JR.

Hygiene of Pregnancy. By Dr. E. S. HARRIS, Blue Springs, Mo.

This is the new fifth edition of the Hygiene of Pregnancy—a paper-covered booklet of 28 pages. "The object of this little booklet is to provide my patients with a safe and reliable guide through the stages of pregnancy, confinement, and the lying-in state."

It is intended therefore for distribution by the physician among his pregnant patients; it is sold at 10 cents per copy and physicians may have the name and address on the front cover free in lots of 25 or more.

The booklet contains much that is of value to the prospective mother. The author is to be commended for his attempt to impart to her information she is usually in need of. P. T. H.

One Hundred Surgical Problems. The Experiences of Daily Practice Dissected and Explained. By JAMES J. MUMFORD, M. D., Visiting Surgeon to the Massachusetts General Hospital. Boston, W. M. Leonard, publisher, 1911.

This volume of 354 pages consists of a report of one hundred surgical cases which have come under the personal observation of the author. They include a great variety of diseases and present many important and interesting features in diagnosis and treatment. The case histories are condensed but present the most essential subjective symptoms with a brief record of examination in each case. There is a complete index which make the records more available for reference. This collection of cases by so eminent an author will be found very valuable to the surgeon both as an aid in teaching and in his every day practice.

G. E. B.

Compend of the Practice of Medicine. Giving the Synonyms, Definition, Causes, Symptoms, Pathology, Prognosis, Diagnosis, Treatment, etc., of each Disease, Including a Section on Mental Diseases and one on Diseases of the Skin. By DANIEL E. HUGHES, M. D., late Chief Resident Physician, Philadelphia Hospital; formerly Demonstrator of Clinical Medicine, Jefferson Medical College, Philadelphia. Tenth Edition. Thoroughly revised and enlarged by R. J. E. Scott, M. A., B. C. L., M. D., Attending Physician to the Demilt Dispensary, New York; Author of the "State Board Examination Series," etc. With 63 illustrations. 12 mo; XVIII —878 pages. The leather-bound series of manuals. Full limp leather, gilt edges, round corners, $2.50. Philadelphia: P. Blakiston's Son & Co., 1911.

This book is a distinct disappointment. From the reviews and the fact that it had already passed through nine editions, it was supposed that it would be found to be an excellent work. As it was actually found, however, we fail to see how any teacher can recommend it to his students. It contains all the faults of the usual compend without the virtues of many of them. It is full of statements which are either actually inaccurate or leave an erroneous impression as to the facts. At times brevity is responsible for this in part.

Many omissions are noted, among which may be mentioned; no mention of the Wasserman reaction in the diagnosis of syphilis, no mention of the recent work upon anterior polio myelitis, the cause of pertussis is dismissed as "unknown," there is no mention of lead poisoning or phosphorus poisoning among the intoxications. A rather large number of typographical errors have been found.

Remittent fever and *Intermittent fever* are retained as titles of diseases with a detailed description of each, though it is stated that they are types of malaria, which by the way, the author wishes to have known as "Mosquito fever." *Lithaemia* or the *Uric Acid Diathesis* is given full place as a disease, and another disease title is *Foul Breath.* The description of the latter condition properly makes it a symptom of many diseases. Of the new sections mentioned in the preface as having been added but two are of importance in a work of this kind and of these two, *Cellagra* and *Glandular Fever,* the former is far from satisfactorily described and in part inaccurately.

Of the sixty-three illustrations all but one are credited with having been taken from some other work, mostly from Greene's Medical Diagnosis. This one, Fig. 60, from the lack of credit apparently original, we recognized as having been taken from a well-known work on Dermatology published by another firm. Figure 61 purports to represent *Sarcoptes Scabiei* but is really (Fig. 192 of Greene's Med. Diag.) Megastoma Entericum.

In the preface it is stated that the book has been thoroughly revised and much of it rewritten, but there is certainly opportunity still for much more of the same labor. C. K. W., JR.

An Epitome of Hygiene and Public Health. By GEORGE M. PRICE, M. D., formerly Inspector New York State Tenement Commission, Medical Sanitary Inspector, New York Department of Health. 12mo. 255 pages. Cloth, $1 net. Lea & Febiger, Publishers, Philadelphia and New York, 1910. (*Lea's Series of Medical Epitomes.* Edited by VICTOR C. PEDERSEN, M. D., New York.)

Doctor Price's connection with the New York State Tenement Commission and with the New York Department of Health has made him particularly well qualified to discuss hygiene and public health. There are 244 pages of reading matter and this is of such a character that it can be readily understood by the general public as well as by the physician, to whom it should particularly appeal. There are eleven chapters besides the introduction and their titles are; housing hygiene, school hygiene, industrial hygiene, public water supply, food supply, milk supply, disposal of waste matter, public nuisances, the prevention of infectious diseases, federal hygiene, and sanitary inspection.

So well is each question considered and so clearly are the solutions to the various problems stated that it is a pleasure to commend this book. It is to be hoped that boards of education and public libraries will place it on their list. S. L. D.

The Test Diet in Intestinal Diseases. By Prof. Dr. ADOLF SCHMIDT. Authorized translation by CHARLES D. AARON, M. D., Philadelphia. F. A. Davis Company, 1909.

Professor Schmidt with Dr. Strasburger were the first to outline a method for the examination of the function of the intestines, that could be carried out in practice, similar to the methods employed for the examination of the stomach contents in "Die Funktionsprüfung des Darmes mittelst der Prebekost," a little manual published several years ago, and the subject of this review is a translation of the second edition of the book.

The second edition is a distinct improvement on the first in several directions, notably in making the technique more practical and in the addition of a number of very excellent illustrations. The illustrations are in color and will without question do much to aid the beginner in this line of work and at the same time should contribute to its popularity. The text is much more condensed and the statements more clear and concise than the average German publication, a fact that will go far in making it acceptable to the busy American practitioner. S. L. D.

State Board Question and Answers. By R. MAX GOEPP, M. D., Professor of Clinical Medicine at the Philadelphia Polyclinic. Second Edition Revised. Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $4 net; half morocco, $5.50 net.

There must certainly be a demand for a book of this character or the publishers would not issue a second edition, nevertheless it is quite

improbable that any self-respecting medical student (and the medical student is the only probable purchaser) would care to have his teacher know that he owned one.

Its purpose is to provide superficial information rather than to promote knowledge and it can be safely said that it is well adapted for the purpose intended, for it contains questions of all the state licensing boards issued in recent years carefully indexed. Had the author arranged the questions in groups according to the state boards who asked them the seeker after light would need only to concern himself with the questions of the particular board he wished to pass. It is to be hoped that further editions will be deemed unnecessary. S. L. D.

Hygiène de l'Alimentation dans l'état de santé et de maladie, par le Docteur J. LAUMONIER. 4e édition, entièrement refondue. 1 vol. in-16 de la *Collection Médicale,* cart. à l'angl., 4 fr. (Paris: Librairie Félix Alcan, 1911.

This work deals essentially with the question of proper alimentation both in health and in disease.

The author discusses in the first place the derivation, chemistry, digestibility and nutritive value of the various food stuffs. A brief description of the anatomy of the digestive tract follows together with a very practical discussion of the physiology of digestion. The specific rôle of the salivary, the gastric and the intestinal digestions is clearly exposed, and the action of the various ferments, the bile, the pancreatic and intestinal juices carefully studied. The writer lays particular stress on the part played by psychic influences.

In the second part of this work, the various modes of preparing and cooking food are carefully described as well as the physical and chemical changes resulting therefrom. The sterilization and preservation of food are also considered and a special chapter devoted to the very important question of alteration and adulteration.

Part third deals with diet in health. The author's first step, in this connection, is to formulate a diet which, qualitatively and quantitatively, would meet the demands of the normal economy and ensure nutritional equilibrium. He then discusses the variations necessarily determined by such factors as age and sex, by certain physiologic states such as pregnancy and lactation, as well as by occupation, season, climate and race.

The fourth and last part of the book is devoted to the study of proper alimentation in disease. After considering the advantages, disadvantages and indications of general diets, such as the milk diet, the vegetable diet, etc., the author formulates in detail the diet suited to individual diseases. Thus, the special diet applicable to each of the various disorders of the gastro-intestinal tract is very minutely described. With almost equal care, dietetic regulations are tabulated for the cardiac and pulmonary affections, the diseases of the liver and kidneys, the mani-

festations of atheroma and senile involution, the various systemic and nutritional disorders, the diseases of the blood, the nervous system, etc.

Laumonier's work is full of excellent suggestions and can be warmly recommended to those who correctly estimate the value of dietetic measures in the treatment of disease. L. A.

The Care of the Baby. By J. P. Crozer Griffith, M. D., Clinical Professor of Diseases of Children in the University of Pennsylvania. Fifth Revised Edition. 12mo. of 455 pages, illustrated. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $1.50 net.

This book contains many helpful details concerning the care of the baby, including preparation for the arrival of the infant, and discussion of its normal growth, toilet conveniences and necessities, clothes, food, exercise, training and nursing. To the above, 238 pages, or about half of the book, are devoted. The rest of the volume contains a general discussion of disease, a description of symptoms and signs and the management of the sick child. This is followed by a condensed account of many of the disorders of the childhood and their diagnosis including diseases of the mouth, throat, gastro-intestinal, respiratory, and nervous systems, special senses, infectious diseases, harmful habits, accidents, and emergencies, including poisoning. Such detail seems very impractical and even harmful for parents or nurses, for they are rarely able to interpret and make intelligent application of such information.

To the young medical student, the book may be useful as a review of his more extended study. In the treatment of "cuts and tears," while corrosive sublimate is said to be better, a lotion of carbolic acid is also advised, a compress wet with this to be bound on. To one who has seen cases of gangrene from such use of carbolic acid, this procedure would seem ill advised. In the appendix, a dietary, which contains many useful receipts, is given, also a description of remedies for local use, various kinds of baths, poultices, plasters, ointments, solutions, gargles, powders, disinfectants; and remedies for internal administration, including laxatives, astringents, emetics, stimulants, etc. A list of about 70 drugs with their doses is added; indeed, this detail would seem out of place in such a book. A second appendix discusses infant feeding, its general principles and the detail of modifying milk.

In writing a book of this kind for the laity, it is very difficult to decide what to include and what should be left out, but it will take, I believe, many years of education on medical and other scientific subjects before the general public can appreciate and intelligently apply much of the information which this book contains. It is doubtful if it can supplant other books on the care of children which are much less pretentious. T. O.

What to Eat and Why. By G. Carroll Smith, M. D., of Boston, Mass. Octavo of 310 pages. Philadelphia and London: W. B. Saunders Company, 1911. Cloth, $2.50 net.

As the author says, no attempt has been made to cover the whole subject of dietetics, but the book aims to give the medical student and busy practitioner an insight into the fundamental elements of food and the principles underlying its use. If these are mastered, as applied to the more important diseases, it should be simple to use the same principles intelligently for any other conditions.

In the introduction the caloric value of various foods and the amount necessary to maintain metabolic equilibrium, is briefly and simply described. Succeeding chapters deal with the diet in obesity, emaciation, gout, arthritis deformans, heart disease, arterio-sclerosis, aneurysm, angina pectoris, lung abscess, tuberculosis, disease of the stomach, intestine, liver, pancreas, kidney, blood, and nervous system. An additional chapter gives some receipts and tells their caloric value. Spceial talks, including Fisher's, show the same for ordinary foods. The text is not restricted to mere diet lists, although these are detailed and abundant, but considers the symptoms, their causes, physiological and chemical; in many cases helpful points in diagnosis and drug treatment are given.

Frequent headings in heavy faced type are placed in the margin and are a great aid for rapid reference. The clear type on unglazed paper is not fatiguing, but is pleasing to the eye. As a simple work on practical dietetics, this book should be useful to students and practitioners.

T. O.

DERMATOLOGY

Edited by Frederic C. Curtis, M. D., and Harry W. Carey, M. D.

Bacteriatherapy in Certain Diseases of the Skin.

Martin F. Engman. *Transactions of the Eighth Congress of American Physicians and Surgeons,* 1910.

The report embraces the study of 300 patients treated with bacterial vaccines. Stock vaccines were used first, autogenous vaccines only when the former failed. The opsonic index was employed to control the dosage for a time but after a short trial was discarded as impractical, the dose being determined clinically by the effect on the patient. In general the writer believes that the dose recommended by most investigators is too large.

Suspensions of the staphylococcus group of organisms and the acne bacillus were used.

In working with the staphylococcus suspensions no distinction between the aureus and albus types was made as the writer believes the type is dependent upon the incidents of growth and environment. The stock vaccine was made from the albus type because it proved to be the most satisfactory for general use. A polyvalent staphylococcus vaccine was also used with good results. In all cases where vaccine therapy was used all local treatment was stopped.

In dermatitis and eczema of various types the vaccine was beneficial only in those showing secondary infection. In these the pustulation quickly responded to its action. All other forms were not affected. In the infectious form of eczematoid dermatitis due to staphylococcus infection the vaccine produced brilliant results. The dose should be small from 50-100 million. Larger doses than this tend to cause a relapse.

In Sycosis the acute forms responded favorably to stock vaccines but the chronic cases required autogenous vaccines.

In Furunculosis, when general, an immunity is easily obtained with a stock vaccine but when the lesions are situated about the nape of the neck or on the buttocks the results are not so satisfactory.

Disseminated Folliculitis or acute forms were promptly benefited by the use of the vaccine. The immunity was of longer duration in this condition than in any other observed by the writer. One case of the pustular form about the vulva associated with diabetes was promptly relieved.

In Ecthyma of staphylococcic origin and in Acne Rosacea accompanied with furuncular lesions the vaccine produced a rapid subsidence of the trouble. In Acne Varioliformis the vaccines proved to be a specific.

In Impetigo, Pityriasis Rosea, Pemphygus, Dermatitis Herpetiformis, Acne Rubra Seborrhoeica, Psoriasis. Pustular Syphylis and Dermatitis exfoliativa the staphylococcus vaccine exerted no beneficial action.

Vaccine therapy was tried on 118 cases of Acne Vulgaris; 40 were given staphylococcus suspensions and 78 the acne bacillus suspensions. Very little success attended the use of the staphylococcus vaccine but the results with the acne bacillus vaccine were brilliant. The initial dose should never be more than 3 million. The lesions should not be manipulated for two or three days following injection. The negative phase is marked by the appearance of two or three new lesions in 48 hours after injecting the vaccine. If more than three new lesions appear the dose is too large. After 72 hours the comedones should be expressed and the pustular lesions opened. This manipulation is believed to be of advantage as it brings the immunizing blood to the part. On the 5th or 7th day new lesions will appear and this marks the time for the second dose of 3 or 5 millions. If new lesions continues to appear after this cycle has been repeated several weeks the dose may be cautiously increased. Whether the immunity obtained in this way is permanent or not has not been determined. H. W. C.

Vaccine Therapy as Applied to Skin Disease.

T. Caspar Gilchrist. *Transactions of the Congress of American Physicians and Surgeons,* 1910.

The writer gives the results of his experience with the use of vaccines in the treatment of more than 300 cases of skin disease. He used the vaccines of the staphylococcus and the bacillus acne.

He found that the albus type of vaccine gave results equally as good in aureus as in albus infections. The albus vaccine was used in four groups of diseases as follows:

1. In those due to the presence and growth of the staphylococcus albus either (A) alone as in staphylococcus dermatitis and folliculitis or (B) where it predominated as a secondary invader as in acne vulgaris, syphilitic ulcer and some forms of eczema.

2. In those due to the presence and growth of the staphylococcus aureus either (A) alone as in furunculosis and sycosis non-parasitaria or (B) where it predominated as a secondary invader as in eczema madidans, syphilitic ulters and dysidrosis.

3. In diseases presumably due to toxins emanating from the alimentary tract—erythema multiforme or bullosum, pityriasis rosea, dermatitis herpetiformis, acne rosacea and urticaria.

4. Experimentally in those diseases whose etiology is entirely unknown —psoriasis, lichen planus, lupus erythematosis, parapsoriasis, purpura and seborrhoeic eczema.

The dose varied from 75-100 million given daily, every other day or weekly. The average dose was 300,000,000.

Marked benefits were noted in the treatment of the superficial pustular forms of acne vulgaris but the acne nodules were not affected. The dose was from 300-500 million given weekly over a period of 8-10 weeks. An increase in the pustulation indicated a decrease in the dose of the vaccine.

In 1899 the writer found by making cultures from the surface of weeping eczema that the staphylococcus aureus was often present. He used the vaccine of the staphylococcus in 60 cases and found that the greatest benefit was obtained in the seborrhoeic type. The scaly and indurated patches of eczema were not affected. In two cases of discharging syphilitic ulcers the vaccine decreased the discharge and promoted healing. In furunculosis although the infection was due to the aureus type the albus vaccine exerted marked curative effect and prevented relapses.

The effects of the vaccines on sycosis non-parasitaria was especially favorable, 8 out of 10 cases were cured by its use. In erythema multiforme bullosum the vaccine was used with benefit. In pityriasis rosea and dermatitis herpetiformis the results were doubtful. The results in 16 cases of acne rosacea were good especially when acne nodules complicated the condition but even when no nodules were present the flushing was much diminished. In urticaria the vaccine exerted no action.

In group four the vaccine was used experimentally as the etiology of the diseases was unknown. The results of the treatment psoriasis, lupus erythematosus, lichen planus and purpura simplex were bad.

The vaccine of the staphylococcus aureus was used in some of the diseases caused by this organism (furunculosis, infective dermatitis and sycosis non-parasitaria) but its action was not as beneficial as that of the staphylococcus albus.

In the treatment of acne vulgaris vaccine therapy has been of great value in 91 cases extending over a period of three years. In the superficial pustular form the albus vaccine is very helpful but in the nodular variety the acne bacillus vaccine should be used in doses of 3-5 million. This dose may be increased each week unless new nodules appear 2-3 days after injection which is an indication that the dose is too large.

H. W. C.

OPHTHALMOLOGY

Edited by Charles M. Culver, M. D.

Cataract Section in One Movement. (*Der einzügige Staarschnitt.*)

H. Schmidt. *Zeitschrift fuer Augenheilkunde, January* 1911.

It is unnecessary to follow Schmidt, of Wilhelmshaven, through the long mathematical explanations of the various processes which take place when a knife enters the cornea and a section is made, explanations which are freely illustrated by figures and diagrams which vary for each variety of knife used. It will be sufficient to confine ourselves to the practical deductions which Schmidt draws from his geometric examination of the forces and strains determined by the act of cutting. Two conditions must be satisfied by a successful section of the cornea in extraction. The wound must offer an easy and uncomplicated outlet for the lens, and must heal quickly and without undue reaction. To fulfil the latter demand, the edges of the wound must be as smooth and cleanly cut as possible and must enclose no corners or pockets. It is sufficiently obvious that an even wound cannot be expected when the section is made by a series of sawing movements. It can only be made by a single clear sweep of the knife; the single-action cut is the most important desideratum of the operation. The act of making the section is complicated by the elasticity and tension of the cornea. The elasticity allows the circular form to be distorted by the opposite pulls of the knife and fixation forceps; this becomes the more evident as the aqueous escapes. Knives can be classed in two groups—those which, like Beer's knife, completely fill the lumen of the wound, and only allow the aqueous to escape at the end of the act; and narrow knives of the v. Graefe type, which allow the aqueous to escape as soon as the counter-puncture is completed. All knives are modifications or combinations of these two widely separated and extreme types. Both Beer's knife and v. Graefe's lend themselves to a perfect edge; the highest possible degree of sharpness can be obtained, and it is equal all along the knife. Some of the modifications, especially the curved form introduced by Haas must be sharpened on a curved hone, and, in consequence, equal keenness at all points is technically almost unobtainable. Beer's knife has the great advantage that the section is made in one forward stroke, and is clean and smooth. But it has the equal disadvantage that if the section be commenced inaccurately the direction

of the knife cannot be altered. The narrow knife enables a false start to be rectified, and the narrower the blade the more easily can the direction of the cut be modified. It has the disadvantage that the aqueous rapidly escapes, and the cornea becomes distorted, rendering an accurate ending of the section difficult or even, at times, impossible. The sawing action, even if reduced to two or three motions, gives an irregular wound. No alteration in shape will correct this fault until the Beer is approached. The distortion of the cornea is less if Monoyer's two-pronged fixation-forceps is used. The latter is, however, liable to tear the senile and fragile conjunctiva. The author has designed a semi-circular half ring, which he presses against the cornea from above. It has five sharp hooks, ½-¾ mm. long, which engage the conjunctiva. This instrument fixes the globe, and at the same time prevents any distortion. He has used it for ten years, and *has never had any loss of vitreous!* We gather that Schmidt, although he wishes to obtain a section by one action, realizes that he can only satisfy his wish by using Beer's knife, whose disadvantages outweigh its advantage in this respect.

Schmidt has had photographs made of the edge of the best German knives and one of Weiss's London productions. An examination of these photographs, which are given in a plate, show at once that *there is no comparison whatever between the two.* The author's words are these: "Unfortunately, *the extraordinary superiority of the English manufacture, both in the material and workmanship, is seen at a glance.* The cutting edge, in places, approaches a mathematically straight line whereas the German article shows an unevenness. That part which lies near the edge, which I will call the stropping zone, forms, on the English blade, an even band with parallel borders and relatively shallow furrows, whereas the lower edge on the German knife forms an entirely irregular line and is covered with deep furrows." The use of Weiss's knives all over the Continent is a silent witness of their perfection.

Experiments shows that if a cataract knife be put into cold water containing 1 per cent of sodium carbonate, and be brought to a boil and boiled for 15 minutes, no alteration whatever can be detected with the microscope, even if the boiling be repeated three times. But if the cold knife be plunged straight into boiling water, the edge is certainly affected for the worse. The microscope shows a large number of fine serrations. Schmidt recommends that every new knife be annealed, by bringing it to a boil from the cold before it is used.

On Facettes in the Cornea. (*Ueber Dellen in der Hornhaut.*)

E. Fuchs. *von Graefe's Archiv f. Ophthalmologie, Bd. lxxviii, first Heft, 17 January,* 1911.

The condition to which this paper by Fuchs, of Vienna, refers is of physiological interest, although of no great clinical importance. It has not yet attracted much notice. We find a shallow, plate-like depression

at the corneal margin, sometimes slightly extending beyond the limbus, with clearly-defined but smooth borders, the central one being, as a rule, steeper; its shape is mostly elliptical, with the long axis parallel to the limbus, and its site is mostly on the temporal meridian, very rarely central. Its depth seems hardly ever to exceed 0.5 mm. Its bottom is often silver-grey and dry, as from exerosis. There is some injection of the corresponding marginal vessels, both limbar and conjunctival. It does not produce any subjective symptoms beyond slight burning, and every trace of it disappears after a few hours or a day or so at the most. The causes producing it are: (1) infiltration of the adjoining conjunctiva and episclera through inflammation (episcleritis, etc.), or from other causes (suffusion, angioma, or even pinguecula), or after operations (muscular advancement) and subconjunctival injections (cocaine, or 10 per cent, saline), (2) instillation of cocaine (3) operations for cataract, several days after the effect of cocaine has passed off, (4) in a case of idiopathic hemeralopia, (5) in paralytic lagopthalmos, (6) in a few other conditions.

The affection is somewhat akin to the small pits described by Gaule after resection of the trigeminus. They are only seen after the lids are kept apart for a little while, and if the lid is restored, they disappear at once. Thus it is seen that they differ from the "facettes" by the latter being always marginal and bigger, besides being independent of the lid movements and having much longer duration.

The anatomical appearance of "facette" could be studied in a case of excision. The epithelium was reduced to about one-third, the reduction being in size of the layers without any shedding; there was also thinning of the underlying corneal layers, due to the loss of water. The appearance of the "facette" is very likely due to disturbance of the nerve supply. It must be remembered that the nerves of the cornea are of two kinds: the conjunctival fibres, superficial, without medullary covering, which supply the most peripheral superficial parts of the cornea only; and the scleral, about 60 small trunks in all which retain their medullary layer till well within the cornea, and lie rather far back at the periphery but gradually ascend to the more superficial strata in their course toward the middle of the cornea. It seems likely that the formation of a "facette" is due to a disturbance affecting one or more of first group of nerves and remaining confined to the district of its ramification.

On the Results Obtained with Schiotz's Tonometer in Normal and Glaucomatous Eyes, Especially before and after Various Tension-lowering Operations. (Ueber die mit dem Tonometer von Schiotz gewonnener Resultate bei normalen und glaukomatosen Augen, besonders vor und nach den verschiedenen druckherabsetezenden Operationen.)

W. Stock. *Klin. Monatsbl. f. Augenheilkunde, Beilageheft.* 1910.

Stock, of Jena, examined 100 normal eyes with the tonometer of Schiotz, and found values varying from 12 mm. to 26 mm. mercury. This result differs somewhat from Schiotz's datum of 15.5 mm. as the

normal intra-ocular pressure. It follows that values within the limits of the normal may yet indicate a relative hyper-tension; *e. g.*, a tension of 20 mm. may become established in an eye the natural tension of which was, say, 12 mm. Such a contingency is very rare, Stock recording only one instance: in a woman suffering indubitably from simple glaucoma, a tension of about 20 mm. was found on repeated examination, even after the instillation of homatropine; by sclerectomy it was lowered to 17 mm. Apart from such rare exceptions, the tension in glaucoma simplex is always increased, as was also stated by Meller. In one case, with a reading of 70 mm., no hypertension was made out by several examiners through palpation. It would have been very interesting if Stock had compared the results of the two methods throughout his cases. The single discrepancy recorded by him is truly startling.

Stock concludes that Schiotz's tonometer is a trustworthy and most useful instrument, allowing an early diagnosis and early operative treatment of glaucoma. As to the various glaucoma operations, old and new, it appears that in glaucoma simplex Lagrange's operation gives the best results; in very advanced cases a preliminary cyclodialysis may be indicated, this operation alone failing to reduce the tension permanently. In recent inflammatory glaucoma iridectomy is the best operation; the effect and indication of cyclodialysis is the same as in simple glaucoma, this operation being chiefly useful as a preparation for iridectomy or Lagrange's operation. The use of myotics is often necessary afterwards, whatever operation may have been performed.

The Small Flap Incision for Glaucoma.

H. Herbert. *Trans. Ophth. Society U. K., Vol. xxx, fasc.* 3 *p.* 199, 1910.

Mr. Herbert although satisfied with the results of the "wedge-isolation" operation, for glaucoma, devised by him some years ago, questions if it can ever attain great popularity, owing to difficulties in *technique.*

Herbert, in the present communication, gives details of the evolution of what he terms the "small flap incision" for glaucoma. One of the encouraging features of this operation, which Herbert recommends for extensive trial, is that there is a fair margin for imperfections in *technique.* Some years ago, whilst in India, Herbert found that some cases of glaucomatous tension could be relieved by a kind of modified paracentesis. A subconjunctival incision was made with a narrow (4/5 mm.) blade through the sclera into the anterior chamber, and, after this, a tiny cut was made at right angles to each end of the primary scleral incision by turning the edge of the knife forward. In this way a small bracket-shaped flap was cut in the sclera. This operation, with certain modifications, Herbert has repeated since his return to England, and in most cases the results have been excellent. By its aid, a permanently

filtering linear cicatrix has been obtained. It is to be noted that in some instances the operation takes several months to produce its full effect upon the tension of the eyeball. One point brought out by Herbert's experience is that for eyes with the higher degrees of tension, a very narrow flap may prove insufficient. In his Indian operations the primary sceral incision had a length of from 1.5 mm. to 2 mm. but he now makes incisions which vary in length from 3 mm., 4 mm. or more. He places these wider flaps above the cornea, since iridectomy may be needed to prevent prolapse or extensive adhesion of the iris. He makes the important observation that adherent iris is less likely to block the whole of the wound when the broad flap is adopted. Iridectomy, either button-hole or complete, according to the condition of the iris, is indicated in cases where the pupil does not contract fully to physostigmine beforehand.

The details of the operation are briefly as follows: Before operation, physostigmine drops (1 per cent) are used three times—once on the previous night and twice on the morning of the operation. Adrenalin (1:1,000) is applied before cocaine is used, once in non-congested, and twice or oftener, if necessary, in congested eyes. The incision is made with a very narrow Graefe knife, which tapers from point to heel, or in operating above the cornea, Sym's iridectomy knife may conveniently be employed. The point of the instrument (whichever be selected) is directed downwards upon the ocular conjunctiva at a point 4 mm. above the limbus. The conjunctiva, as it were, is pushed down before the instrument. The direction of the knife is then changed, so that its point is made to enter the sclera at a spot 2 mm. to 3 mm. from the limbus. The knife, directed so as barely to escape the iris, is pushed on, and in that way is passed into the anterior chamber. It must be withdrawn slowly. The small, vertical, lateral cuts in operating above, are made by means of a Taylor's trowel-shaped cataract knife, of which the blade has been ground down to a length of from 5 mm. to 7 mm., the width has been reduced to 1 mm. or less, and the point has been rounded. This instrument is introduced on the flat, its edge is turned forwards at each end of the section, and a small cut is made by sawing movements reaching to the limbus. As the essential is to obtain merely a subconjunctival valve, capable, as it were, of some slight swinging movement, the little incision may be parallel, or somewhat convergent, or divergent. In order to neutralize the mydriatic effect of the adrenalin and cocain, physostigmine, 1 per cent, should be dropped into the eye twice, as soon as the aqueous has ceased to leak freely through the wound. The use of the physostigmine, as a rule, is kept up for two or three days after the operation, when, if the anterior chamber has refilled, it is replaced by atropine. Atropine is employed—first, in order to make sure that posterior synechiae are not forming; and, secondly, in order to increase the leakage through the wound by reducing escape through the normal channels.

Epithelial Changes in Trachoma and other Conjunctival Diseases. (*Ueber Epithelzellveraenderungen beim Trachom und andern Conjunctivalerkrankungen.*)

K. Stargardt. *Von Graefe's Archiv fuer Ophthalmologie,* 69, 3.

The author has examined by Giemsa's stain the epithelium of 140 cases of different conjunctival affections.

In 1907 v. Prowazek and Halberstaedter investigated the results of trachoma in Orang-Outangs in Batavia and came to the conclusion that the infection lay in the epithelial cells and not in the follicle. They found various minute irregular bodies in the protoplasm of the cell.

Dr. Stargardt, in order to confirm these results, decided to examine first of all the inflamed conjunctival epithelium of cases other than trachoma and to compare the results with cases of recent trachoma. He found the protoplasm of the epithelial cells of the normal conjunctiva by Giemsa's stain showed a fine threadwork or honeycomb appearance of light blue color. In conjunctivitis there was always very great thickening of the blue stained substance with many small inclusions stained dark blue; these latter were occasionally as large as 3 or even 5 micromillimeters and might be confounded with Prowazek's bodies. There were found also, in all varieties of conjunctival disease, intracellular masses stained red. Sometimes the fine protoplasmic network in certain cells was stained red instead of blue.

Small diplo-bodies were found in all cases of conjunctivitis and are evidently therefore not specific. The smallest of these could be seen only with magnification 1,000. Vacuoles were common, especially in diplo-bacillary conjunctivitis, and minute diplo-bodies were frequently seen in these vacuoles. The nuclei showed changes of every possible character, chiefly mitotic.

The author then compares the above appearances with those he found in two early trachoma cases. The most characteristic appearance in the latter was a semilunar, blue-stained body lying with its concavity close to the nucleus of the epithelial cell. The size varied between 1/6 and 1/10 micromillimeter. These semilunar bodies were sometimes very ill defined, and then appeared as a blue shading partly surrounding the nucleus. The author found these only in the trachoma cases and agrees that they correspond with what was described by von Prowazek. Other changes were also found in these trachoma cases, viz.: thickening of the protoplasmic ground work and various small inclusions stained red. Rarely he found the minute red bodies which von Prowazek considered a likely cause of trachoma. They lay singly in a typical semilunar body or else in masses replacing the semilune completely.

The author is convinced that epithelial changes of great variety occur in all cases of conjunctival disease and that the typical inclusions described by von Prowazek are found only in early trachoma.

ALBANY
MEDICAL ANNALS

Original Communications

INTRODUCTORY ADDRESS.

Delivered at the Opening of the Eighty-first Session of the Albany Medical College, September 19, 1911.

BY HERMON C. GORDINIER, M. D.,
Professor of Physiology.

Mr. President, Members of the Faculty, and Students of the Albany Medical College:

It is an old but, nevertheless, a true saying, that the unexpected always happens. When I attended the last meeting of the Faculty I had every reason to believe that my semester's work was at an end and that I could rest from my labors and quietly enjoy a well-earned and uninterrupted vacation. Great was my surprise when near the close of the meeting I was accosted by the Registrar, who informed me that it would be my turn to deliver the opening address of welcome at the next session. So instilled was I with that delightful spirit of altruism that I generously offered the opportunity to each gentleman in turn around the table, and you may believe me that not a single one of them showed the slightest inclination of being so uncharitable as to accept my kind offer. However, gentlemen, it affords me much pleasure on this occasion to extend to you, on behalf of the Faculty, a most hearty and cordial welcome to this the opening of the eighty-first session of the Albany Medical College.

To you, young gentlemen, this is an occasion of great interest and one which you will always remember, and look back to with a great deal of pleasure, as it is a formal introduction to a carefully prepared and systematic course of study in medicine and surgery in preparation for your entrance into a noble and

democratic profession. Our only hope is that you have come full of energy and eager for the day's work, thoroughly equipped with a good general education, and a love for the medical profession which emanates directly from your hearts. If otherwise, you had better enter into another field, for I can assure you at the threshold that in order to keep abreast of the times you must be constant students and be willing to make many sacrifices, for medicine is a life-long study, in which you can only hope to make a beginning during your college course.

To cover the vast field of medicine and surgery in four years is a hopeless task. We can only hope to instill principles, put the student in the right path, give him methods, teach him how to study, to appreciate the essentials and to cast aside the non-essentials; his success depending upon continuous application and hard work. The work habit should be early acquired by each one of you, as your measure of success in life will depend upon how well this habit is made an integral part of your economy. "Osler very well expresses it when he states that the one little word which is the master word in medicine is work, which, if you can engraven it on the tablets of your heart, is fraught with such momentous sequences. Hippocrates, laying hold upon it, made observations and science the warp and woof of our art. Galen so read its meaning that fifteen centuries stopped thinking and slept until awakened by the De Fabrica of Vesalius, which is the very incarnation of the master word. With its inspiration Harvey gave an impulse to larger circulation, an impulse which we feel to-day. Hunter sounded all its heights and depths and stands out in our history as one of the great exemplars of its virtue. With it Virchow smote the rock, and the waters of progress gushed out; while in the hands of Pasteur it proved a very talisman to open to us a new heaven in medicine and a new earth in surgery." In the hands of Lister it has resulted in completely revolutionizing the whole field of surgery, thus relieving suffering humanity beyond words to describe. And I can assure you that there is not a member of this teaching Faculty but whose position is entirely dependent upon it.

I consider it especially fortunate that twenty-eight years ago, through the advice of a medical friend I was enrolled among the freshmen class of this college, whose pleasure it was to

be present at a similar formality, and I can assure you that it made a lasting impression upon me. As I look back to those early student days the one thing which has always remained uppermost in my memory and for which I have ever been grateful was the spirit of good-fellowship and the kindly encouragement which I received from the members of the Faculty. They were enthusiastic and inspiring, ever ready to lend a helping hand, and they displayed more than the ordinary zeal in advancing our common interests, in diffusing valuable medical knowledge and, above all, in exerting a personal influence over us for good that served to hold us so assiduously to our work. This personal attention is just what should be encouraged by every institution of learning. To become intimately acquainted with and deeply interested in the work and welfare of each student and to properly place and direct him along lines best adapted for him at the present and in the future, is one great advantage of which this school may be justly proud. It is just that spirit that has been so welded into the character of our students that has served to bind them so closely to their Alma Mater.

In those happy junior days I was naturally much attracted by the gentlemen of the Faculty who were entrusted with the teaching of the all-important preliminaries, the superstructures of medicine and surgery—anatomy, physiology, pathology and chemistry. It is sad indeed here to relate that of that number only one now occupies that same honorable post of duty as of old. I refer to the Registrar, who for more than thirty years has with such unswerving fidelity more than filled the positions of two men. He not only occupies quite as many if not more hours than any one of us, but he still displays, after so many years of indefatigable labor, that buoyancy of spirit and enthusiasm as of old. In the olden days histology and pathology were taught by Prof. William Hailes, who then, just fresh from Europe, gave us most excellent courses. His devotion to and thorough knowledge of these subjects, the accuracy with which he described the specimens, his artistic ability, the enthusiasm with which he spurred us on to better efforts, and, above all, his kindly demeanor, sociability and loyalty to the students, were some of the many attributes which endeared him to us. Stricken in the midst of perfect health with a progressive disease, he

was obliged early to relinquish his duties as a teacher in the school and retire to private life. The names of Professors Perkins, Townsend and Balch will ever remain fresh in our memories. Every tongue is ready to confess their praises and acknowledge their merit. They were men of ability and learning. They were distinguished professors in this school, and they reflected honor on this college and community.

The rolling seasons pass away
And Time untiring waves his wing;
Whilst Honour's laurels ne'er decay,
But bloom in fresh, unfolding spring.

What though the Sculpture be destroyed
From dark oblivion meant to guard;
A bright renown shall be enjoyed
By those whose virtues claim reward.

Then do not say the common lot
Of all lies deep in Lethe's wave;
Some few who ne'er will be forgot
Shall burst the bondage of the grave.

Twenty-eight years ago this Faculty consisted of but ten professors and two demonstrators, and, if my memory serves me well, no instructors or quiz masters. It was the custom in those days for the head of each department to conduct his own recitations, devoting but a short time to them at the beginning of each lecture; and I can assure you, gentlemen, that they knew long before the final examinations the men best qualified to pass. What remarkable changes have since then occurred! I find on the roll of the Faculty about seventy teachers, consisting of professors, lecturers and instructors. Nothing emphasizes so sharply the character of the evolution which has gradually and stealthily replaced in great part for the theoretical, practical teaching, for the distant cold lectures of the amphitheatre, the elbow to elbow personal contact of the teacher and student both in the laboratory, dispensary and wards of the hospital. Those who graduated in my time, unless in constant touch with their Alma Mater, can have no true appreciation of the remarkable progression which has occurred in every department taught in this College. This has been due, as above stated, to the substitution for the theoretical of good sound

teaching in every department of medicine and surgery. An enormous clinical material from the various large hospitals and dispensaries of this city is placed at the disposal of our advanced students, so that they become thoroughly acquainted with all the more common forms of disease and are taught the most modern therapeutic measures for their alleviation. To-day the student lives a much happier life in comparison to that which fell to our lot twenty-eight years ago. Envy, not sympathy, is my feeling toward him. Not only is the menu more attractive, but it is more diversified and the viands are better prepared and presented; hence more easily digested and assimilated.

In the old days only a few well equipped pathological laboratories were to be found in this country. It was therefore necessary, if one cared to enlarge his knowledge in this most important field, to devote, at a great expense of time and money, several months abroad in the laboratory of one of the great teachers. Our Faculty, early recognizing the importance of greater laboratory facilities, were enabled, through the generosity of Mr. Matthew Bender, to erect the Bender Hygienic Laboratory. Now its work is under the directorship of Prof. Ordway and is of a thoroughly practical character, each student being required to witness the post mortems and to study and familiarize himself with the gross and microscopic appearances of the specimens. He is also obliged to make culture media, to cultivate and study the morphological appearances, tinctorial reactions, etc., of the pathogenic and non-pathogenic bacteria. There the most recent and practical methods of clinical microscopy are taught. Each man is required to study the morphology of the blood, to study the urine and to examine sputum, stomach contents, faeces, transudates and exudates.

A very instructive course hitherto untaught in this college and recently introduced by Prof. Ordway is a practical one in the study of embryology. Another course rather recently inaugurated at the laboratory is also a practical one conducted by Dr. Archambault on the anatomy, histology and pathology of the nervous system. The student is made very familiar with the complex architectural structure of the nervous system as well as with the changes induced therein by disease. This course is given in connection with my lectures on this subject at the college and is in preparation for the very instructive lectures and

clinics on neurology and psychiatry by Profs. Hun and Mosher. It can be truly said that at the Bender laboratory our students enjoy quite as good courses as are to be obtained anywhere in this country or abroad.

The intimate relationship of physiology to clinical medicine is well exemplified in all departments of medicine, but especially is this true in that branch called neurology. While the progress of neurology is in part due to a clearer conception of the anatomy of the nervous system, its origin and the wonderful development made in this department during the past few decades have been entirely due to physiological experimentation.

Physiology has been taught in many if not most of the medical colleges up to within the past two decades simply by didactic lectures illustrated by a few simple experimental demonstrations. In our college physiology was taught most successfully for a number of years by my predecessor and teacher, Prof. Townsend, a refined gentleman and most excellent and enthusiastic teacher. Since his death the teaching of physiology has been entrusted to me. I have endeavored to improve the method of teaching by elaborating many of its branches, so that the student is made to realize the relationship of physiology to pathology, clinical medicine and surgery. My first step was to make the course more practical. This was done by fitting up a laboratory in this college, and although we were hampered by a lack of room and insufficient apparatus, we were able to demonstrate the most essential physiological principles. The Faculty, realizing the need of greater laboratory facilities for physiology and the necessity of introducing into the curriculum that most important branch, physiological chemistry, conceived the idea six years ago of erecting a permanent building. This, however, was not then possible because of a lack of funds. Hence Alumni Hall was completely transformed into a well equipped and perfectly appointed laboratory for physiological chemistry. Experimental physiology has since then been conducted in a part of the Bender laboratory. This work has been up to the present under the supervision of Prof. Victor Myers, who has given most excellent courses, has systematized the work, and has prepared a thoroughly instructive working plan or syllabus of great value to the student. The student is given the opportunity

to master the technique of experimental physiology and is taught modern physiological chemistry.

A course which I hope may soon be introduced into our curriculum is one which deals with clinical or pathological physiology, or that subject which attempts to explain as far as possible the symptoms of disease by aberrant physiological functions. While this branch is perhaps in part considered by many of us in our daily routine, it would in my judgment be wise to have it taught systematically by a clinician or pathologist who has a good knowledge of physiology.

Pharmacology is a course which should be relegated from the theoretical to the practical. Laboratory work should be given in pharmacology so that the student has the opportunity of being made conversant not only with the physical and chemical properties of drugs and their incompatibilities, but also with their full physiological effects on the important organs of some of the lower animals. He should also be privileged to observe the physiologic and therapeutic actions of these remedies on patients in the wards of our hospitals. Such a course would be eminently practical and would give our students a good working knowledge of our most reliable therapeutic remedies.

These laboratories have been of incalculable value to our students and very advantageous to our Faculty. They have stimulated each of us in our work and have exerted their influence in improving our methods of teaching medicine and surgery. They have attracted an ever increasing number of students, and at the same time have furnished places where the general practitioner or advanced student can do post-graduate or research work.

I believe we are on the eve of a great awakening. Our Faculty has been greatly strengthened, and I am sure our worthy Alumni are deeply interested in our future progress and stand ready to help us. We have now almost money enough to erect the Willis G. Macdonald Memorial Laboratory, which we soon hope to build as a tribute to the memory of that splendid physician, successful teacher and great surgeon, whose influence for years has been felt by our students, and who was with us just a year ago to-day at our last opening exercises, apparently enjoying the full vigor of health. In fact at a dinner given by him just prior to that fatal attack of pneumonia, he was attempt-

ing to prepare the ways and means for more laboratory buildings, grounds for a new college, and other essentials for our future progress. For him this may have been a hope almost realized. For us it is but the beginning of a new era along lines best calculated for our future advancement. If we but pause for a moment to consider the great progress which this school has made during the past decade, our outlook in the future is surely full of promise; for with new laboratory buildings, thoroughly equipped and in charge of men specially trained as teachers and investigators, our methods will be greatly improved, new courses instigated, and the theoretical will be almost absorbed in the practical.

Young gentlemen, I want to emphasize the importance to you of a good solid groundwork in the so-called preliminaries or fundamentals of medicine—anatomy, physiology, pathology and chemistry; for without such knowledge you cannot hope to grapple with the advanced work of the senior years, which deals only with medicine in its most practical and broadest sense. Think of how incompetent the surgeon must be without a thorough knowledge of anatomy or physiology, or the physician without a broad general knowledge of physiology, pathology and chemistry. These subjects are therefore essential to a full understanding of medicine and surgery. Their accomplishment is not far to seek. It simply depends upon hard work, thoroughness, concentration, and method in study. Let me advise you to early cast aside all pursuits and pleasures that detract the least from your hours of study, for I can assure you that I have yet to see a student who has failed in his studies or broken in health from overwork. Per contra, many failures in study, and lives made wretched with invalidism, have come from too close attention to the various attractions and pleasures, with which the youth is constantly being confronted in our large cities. You should do a certain amount of good work each day, your whole aim being to obtain complete mastery of the subjects. Such a knowledge will be indelibly imprinted upon your minds and become a part of your mentality, and will be always ready for use at your command. Your examinations and quizzes will then cease to give you fear or worry, and there will be no necessity of your devoting hours or days, in developing that most pernicious of habits, the habit of cramming.

In closing just a word to the seniors. Your time henceforth will for the most part be spent in the great practical laboratories, the hospitals and dispensaries, the actual workshops where you are brought face to face with disease and where diseased conditions can be studied from every possible standpoint. For such purposes the classes will be divided into small groups, so that each one of you will receive the closest possible attention from your teachers and come into close touch with the cases, and thus have the opportunity to critically examine them, make the diagnosis, and suggest a line of treatment. There you will be taught the most modern methods of case taking, the need of developing a definite system in so doing, and the great importance of taking a careful history of each case, the use of diagnostic instruments of precision; the importance of a proper appreciation of both the subjective and objective symptoms; the association of these symptoms into characteristic clinical complexes; the art of differentiation, and the diagnosis of disease. I cannot emphasize too strongly the great importance to you of always being present at the medical and surgical clinics, and conferences and the bedside instruction, where the cases are thoroughly discussed, and your diagnosis and treatment carefully criticised. Let nothing save sickness interfere with such golden opportunities. You should study carefully the history, causation, symptoms and course of disease. You should be incessant in your endeavors to master the art of diagnosis, because your whole success in the future depends upon your ability to diagnosticate and treat disease. This can surely be accomplished by constant application, system in study, careful attention to details, and training your senses of sight, touch and hearing. By so doing your powers of observation will be developed to the utmost, your reasoning faculties greatly stimulated, as well as that most useful of all processes in differentiating disease, the process of elimination. Don't rely altogether upon diagnostic tools or laboratory findings, but upon the facts obtained from all of those sources, together with the clinical findings; depending finally upon the decision obtained from the workings of that most delicate and wonderful of all instruments of precision, brains.

With your eagerness to do advanced work look backward, and repeatedly review your anatomy, physiology and pathology.

I cannot impress upon you too strongly the fact that these subjects are intimately associated with the growth of every department of clinical medicine and surgery. To be able to explain from a knowledge of pathology and physiology the causation of the existing symptoms in a given case, as well as to foreshadow its course and probable termination, and to institute scientific treatment, is a feat that any student should be proud of, and one which all students should strive to acquire.

If you are not thoroughly satisfied with your knowledge of the art of physical diagnosis, let me advise you to re-enter the course given in that department and go over again the normal and pathologic signs, paying especial attention to the normal signs in preparation for a recognition of the abnormal, so that you may get a thorough grasp of that most useful, of all the arts in our craft.

Furthermore, let me advise that before you embark into general practice you serve a year or two apprenticeship in one of our modernly equipped general hospitals, actually living in such an institution, where the responsibility is largely yours, and where you have an opportunity of observing and caring for the medical and surgical cases under the guidance of trained physicians of wide experience, is an education of itself of inestimable value to you in your future practice. Such an apprenticeship should in my opinion be made obligatory rather than optional to the medical graduate, and should be made a part of our regular curriculum.

SOME ASPECTS OF CHORIO-EPITHELIOMA MALIGNUM WITH REPORT OF A CASE.

Read at the Fifth Annual Meeting of the Third District Branch of the Medical Society of the State of New York, held at Kingston, N. Y., October 3, 1911.

By CHARLES OBER KEPLER, M. D.,
Boston, Mass.

In spite of the voluminous literature in our medical libraries on hydatidiform moles and chorio-epithelioma malignum, I offer as my reason for reporting my case of this dread disease, the obligation that rests upon every medical practitioner of making

known in detail all the aspects of any unusual and destructive pathological condition that he may meet with in his practice.

M. R., thirty-two years old. Married for five years. Previously sterile. Was seen for the first time by the writer on December 20, 1909.

Family History. Negative. Patient's past history is without special significance.

Menstrual History. Patient began to menstruate when fourteen years old. Was always very regular, every twenty-eight days, until October, 1909. Duration six days. Some pain, mostly a day or two days before each period. Last regular catamenia September 5, 1909. Patient says that about October 6, 1909, she was in a run-down condition and during this time began to menstruate three days late, the menstrual flow being very dark and sluggish, becoming somewhat more free later.. At this time she suffered with emesis and constant headache.

Breasts were sore and slightly swollen. Nipples grew large and tender. Patient says that on November 5, 1909, she began to flow and flowed more or less every day for four weeks, during which time she suffered with nausea and vomiting. Since the cessation of this flow patient has experienced irregular floodings lasting from two or three hours to a day or two. Patient also at this time experienced sharp pains in both sides of the pelvis, usually lasting only a few moments and occurring mostly on the patient's left side. Patient complained of her left side being sore and lame, also of a dropping-out sensation on standing.

Physical examination. Patient was a well developed and fairly nourished woman. Color markedly pale. Mucus membranes pale. Heart and lungs negative. Pulse 120. Temperature normal. Breasts slightly enlarged and tender, dark areolae. No colostrum could be expressed from the nipples. Abdomen negative except for the fundus of the uterus which could be felt just below the umbilicus—i.e., a uterus much larger than the putative duration of pregnancy. There was slight tenderness over the right iliac region.

Vaginal Examination. Entroitus negative. Cervix deep in pelvis and acutely anteflexed, but soft and sufficiently open to admit the examining finger. There was a slight bloody mucus discharge but nothing suggesting vesicles. The uterine body was the size of at least a four month's pregnancy. The uterus had a doughy feeling and was broader than in a normal pregnancy. A diagnosis of probable hydatidiform mole was made.

The patient, however, being very averse to operative procedure, refused operation and continued to lose large quantities of blood, until January 13, 1910, at which time she became greatly exsanguinated and consented to operative interference. The writer removed a hydatidiform mole, more than filling a quart measure. There was no trace of a placenta or of a foetus. The mole was adherent to the left side of the uterus. In removing the mole the writer scraped the walls of the uterus with his fingers and afterwards supplemented that with a dull curette, then packed it with gauze. The patient's recovery from this operation was

uneventful. Under date of April 23, 1910, patient was seen in the writer's office. Says she feels listless and her appetite is poor. Her first period since the removal of the mole occurred on March 10, 1910, and except for three or four days she has flowed ever since, soiling about one napkin a day. Patient has slight pain now and then over both her iliac regions. Her weight three weeks ago was 120 pounds, now 112. Vaginal examination at this time showed a uterus in good position and well involuted. On May 18, 1910, the patient reported that she was still having a scanty flow, mostly in the mornings. At this time, examination showed the uterine body slightly enlarged. A blood stained mucus plug in cervix, which was normally closed. There was no thickening in the broad ligaments and no pain whatever. On July 6th, the writer was sent for. Patient said she had been bleeding steadily since last seen and now more profusely; this flow being associated with moderate pain. The patient's weight had dropped to 102¾ lbs. The uterus still more enlarged. Its enlargement being apparently more on the left side.

Remembering the patient's history of mole and noting her symptoms since its removal, a diagnosis of probable chorio-epithelioma malignum was made. The writer operated on July 8, 1910. The uterus was first curetted but with negative results as practically no tissue was obtained. Upon bimanual palpation under ether, the abdominal wall being thin, a distinct mass the size of a small egg was noted, apparently in the musculature of the uterus in its left half. This mass had an evident semi-fluctuant or elastic feeling. There were no evidences of infiltration on either side of the uterus. The writer did a supra-vaginal hysterectomy, leaving the adnexae. On inspection the uterus was slightly enlarged and showed a number of small sessile subperitoneal cysts scattered over the surface. There was a distinct mass in the musculature of the left wall of the uterus, which on section presented a purplish red and pulpy tumor, having the appearance of being well circumscribed and entirely surrounded by the muscular tissue of the uterus, its inner side however being separated from the endo-metrium by only a very thin layer of tissue. The ovaries were both negative as regard metastases, not even being cystic. There was a recent corpus luteum in the left ovary. Both broad ligaments were entirely free of disease. No enlarged glands were discoverable.

Dr. F. B. Mallory, Professor of Pathology at Harvard, kindly reported the specimen as showing a few oedematous chorionic villi accompanied by clumps of epithelial cells partly of the layer of Langhans and partly syncytial cells, also giant cells and an occasional mitotic figure. There was also some slight inflammatory infiltration of the surrounding muscle. He reported the growth as chorio-epithelioma malignum. The patient made an uneventful recovery. No metastases occurring anywhere so far as symptoms would show. The patient has gained in weight and strength and repeated examinations now extending over more than a year show her to be entirely free of recurrence.

Chorio-epithelioma is probably the most interesting of all forms of tumors and presents more peculiar problems than any other form of new growth. It was first described by Sänger in 1888, who called it deciduoma malignum, thinking it arose from the decidua. It has been called a neoplasm. Unlike carcinoma, however, its elements are not foreign to the structures at first concerned, and unlike all other tumors it forms no vessels. Schmauch[1] says that Chorio-epithelioma malignum is a cellular infection, while Frank[2] says it arises from some portion of the foetal covering and invades the tissues of its host. Another writer says that it arises from fragments of chorionic tissue retained from a previous pregnancy. Blacker[3] thinks the cause of chorio-epithelioma when found will not differ materially from the causes of malignant growths in any other part of the body, and Veit[4] says chorio-epithelioma can be designated malignant only when there are metastases outside the uterus and its immediate surroundings. This much can be said, however, that chorio-epithelioma is a proliferation of the epithelial covering of the chorionic villi, which covering consists of two layers of cells, that of Langhans being the deep layer and the sycytium being the superficial layer. Lockhart[5] says however that Langhans cells are not important or necessary in chorio-epithelioma, they being absent in some undoubted cases. Syncytial masses however are always present.

It is with reference to the relation of chorio-epithelioma to hydatidiform mole that the writer will call especial attention at this time. Chorio-epithelioma is a product of pregnancy and is always preceded by pregnancy and as such of course can only occur in the female and usually only during her reproductive period, although at least six cases of primary chorio-epithelioma malignum of the ovary have been reported and also a case of chorio-epithelioma occurring at fifty-five years of age, after the close of the functionating period. In apparent contradiction to the necessity of there being a preceding pregnancy, Drjewitsky[6] reports the case of a virgin of seventy-five years of age with a chorio-epithelial growth of the bladder, signoid flexure and bronchial glands. It also occurs occasionally primary in the vagina. or there may be a generalized chorio-epitheliomatous growth and the uterus entirely free. Chorio-epithelial elements have

been found in the testes in at least two cases, as in the case of Schlagenhaufer,[7] while Rosthorn[8] reports a chorionic brain tumor and Ritchie a chorionic mediastinal tumor, both in males, and there is the case of a girl 4½ years of age reported by Pick.[9] These tumors, above mentioned, were however, undoubtedly of teratomatous origin and no chorionic villi have been discovered in the tumor of the testes at least. While Pick[9] says that his case was undoubtedly of teratomatous origin.

Chorio-epithelioma may occur after labor at full term 25 to 26%, following abortion 29 to 32%, or following hydotidiform mole 42 to 44%, the variations in these percentages being the limits given by different observers. It may also follow ectopic gestation as well. I offer these percentages to emphasize the fact that contrary to our early teaching, chorio-epithelioma malignum may follow all the other forms of pregnancy as well as hydatid mole, although in practically one-half the cases hydatid mole is the antecedent.

Its reported age limits are as early as seventeen years and as late as fifty-five. Chorio-epithelioma has been variously named according as foetal or maternal types have been thought to be involved. Deciduoma malignum, syncytioma malignum, choriocarcinoma and other names have been applied to this tumor. Histologists are not clear or agreed even at the present time in their nomenclature or definition of chorio-epithelioma. Marchand[10] whose work on this subject is now authoritative says that chorio-epithelioma is due to an excessive proliferation of the chorionic villi. It seems to be the province of these villi to penetrate the maternal tissues until they come into contact with the maternal blood vessels, the walls of which they erode and penetrate apparently seeking nourishment from maternal sources. In chorio-epithelioma, the cells replace the walls of the blood vessels and they become flaccid tubes, the excess over normal penetration constituting their malignancy.

Thus it can be seen that there is some proliferation of epithelial elements of the chorion in every normal pregnancy, as the cells of the chorion are directly concerned in the nourishment and development of the ovum, and by their activity help to form blood sinuses in the placenta. Sometimes these villi penetrate deep into the musculature of the uterus where no malignancy develops, as for instance, in some cases adherent

placenta may be due to deeply rooted foetal structures. Villi in a normal pregnancy may be even carried to remote parts of the body and destroyed there. Chorio-epithelioma in its power to enter the blood streams, acts much like sarcoma. It usually starts in the placental site. It may be pedunculated or attached more or less to all parts of the uterus, usually however, it is situated on the anterior or posterior walls and near the top of the fundus.

Chorio-epithelioma grows by direct extension, transplantation and metastases. It destroys everything in its course, especially the blood vessels. Like all vegetative growths, its blood vessels and capillaries have no nerves or muscular walls. Chorio-epithelioma seems to have a predilection for multiparae late in their functioning life, but may follow primary sterility. Teacher[11] places the average at 35 years. There has usually been a long period since the last gestation.

Very many factors have been assigned at one time or another as causes of chorio-epithelioma. Arterio-sclerosis of the uterus, angioma of the placenta, malnutrition, syphilis and disease of the lutein tissue of the ovary. Blacker[3] reports a case of chorio-epithelioma with lutein cysts in both ovaries. This excess of lutein tissue has been called by some writers an effect rather than a cause. An excess of lutein tissue is also found in the ovary in all normal pregnancies. As has been mentioned, nearly one-half of all cases of chorio-epithelioma are preceded by hydatidiform mole, usually occurring in two or three months, but varying in time from nine days to four and one-half years after delivery of the mole. A hydatid mole, if it is to precede chorio-epithelioma shows early excessive proliferation. The macroscopical appearance of chorio-epithelioma is that of a whitish or reddish soft friable mass, bleeding profusely on slight injury. There may be in some cases slight nodules on the outer surface of the chorionic uterus. Its microscopical appearance shows an excess of Langhans cells and also syncytium with mitotic figures.

Observers with the exception of Ewing[23] seem generally agreed that there is absolutely no histological difference to distinguish the so-called benign chorio-epithelioma from the malignant. Histologically all chorio-epitheliomatas are malignant. Hitschmann[12] and Cristofoletti in their masterly monographs

in the May, 1911, numbers of the *Wiener klinische Wochenschrift,* say there is no difference morphologically, anatomically or biologically between the trophoblast and malignant chorio-epithelioma. There is also no means as yet of telling whether or not a given hydatid mole will be followed by chorio-epithelioma. There have been 497 authenticated cases of chorio-epithelioma malignum according to Dorland[15] reported up to 1906, and 134 cases reported since then by various operators, making a total of 631 cases up to date. These cases of course are not all following hydatids, but from all known causes.

Chief among the symptoms of chorio-epithelioma is hemorrhage, which continues the most prominent symptom throughout the course of the disease. It is at first rather scant, afterwards, as in my own case, becoming profuse and in many cases becoming uncontrollable. In rare cases amenorrhoea may replace hemorrhage as a symptom. Pain seems to be, in the majority of cases, an insignificant factor and in fact many cases are recorded in which no pain was experienced. There is usually marked anaemia with a pallor, resembling that of pernicious anaemia, this going on even to cachexia. Like other malignant tumors, chorio-epithelioma shows a great tendency to break down, ulcerating and bleeding easily, and with such a condition we have in its later stages a more or less typical septic temperature with chills and an icteric look. There may be also throbbing pain in the vagina.

Micturition may be difficult, great weakness manifest, swelling of the feet and legs and according to Vineberg,[13] increase of cardiac dullness, fluttering in the cardiac region, also shortness of breath, and a dark nipple areola has been noted. According to the same author the urine may show a large quantity of albumen, may also have hyaline and fine granular casts. In case of pulmonary invasion there may be symptoms like those of lobar pneumonia, impaired resonance with weak breath sounds, cough, bloody or purulent expectoration and haemoptysis, also pain in the back. Chorio-epithelioma may also develop in a symptomless manner.

The diagnosis of chorio-epithelioma must be made by the clinician rather than by the histologist. The histological examination can at best be only confirmatory. While many times it is well known that cases of chorio-epithelioma act in a benign

manner, and the patients recover, yet it would be foolhardy to stake any patient's fate on such a chance. The scrapings from a curettage or even a cutting from a vaginal metastasis prove nothing as regards prognosis. Findlay[14] believes that the transition between benign and malignant chorio-epitheliomatous elements is a gradual and imperceptible one as is the transition of a benign hyperplastic growth into the malignant type. Outside of the symptoms of which the patient may complain, the one way to establish a diagnosis is either by curettage or in case of vaginal metastases, the removal of the same and microscopical examination in either case.

It is usual to find the os closed but the cervix soft, in chorio-epithelioma, while in mole the os is usually open wide enough to admit at least one finger. In some cases there is a discharge from the cervix of what has been called a powdery dark blood, or between hemorrhages, according to Lockhart,[5] a smoky sero-sanguineous discharge with foul odor. Curettage has been recommended by some men as a wise course to pursue and vigorously denounced by other men as unsafe and altogether a dangerous procedure, on account of the very great possibility of setting free emboli with resulting metastases, and is in any event usually a waste of valuable time and apt not to be decisive. Curettage must be deep to be of diagnostic value, as it is possible to get chorionic elements in a perfectly normal mucosa for many weeks after a normal pregnancy.

As has been said before, chorio-epithelioma extends by three methods: first, direct extension, as into the muscular walls; second, by transplantation, as in the vagina; third, by metastases in various parts of the body, the lungs and plurae 78.37 per cent, liver, 63.5 per cent, vagina 54 per cent, the ovary 13.5 per cent, spleen 13.5 per cent, and the brain 5.4 per cent, the above being most frequently the seat, then the kidneys, small intestines and nervous system. The above percentages have been worked out by Dorland. The bones according to Lockhart,[5] right thigh as reported by Blacker,[3] and right lobe of the thyroid reported by Hicks.[15] Metastases in the right heart, with embolism and hemiplegia have been reported. The lymphatic glands, pancreas, stomach and lymph glands of the pelvis may also be invaded. Metastases may occur in any visceral

organ, reaching these organs by ways of the lymphatics, lung capillaries, veins or even arteries.

It has been shown that the stormy cases go this latter way. The tendency to metastases in chorio-epithelioma is greater than in any other form of tumor, this being due to the penetration of the walls of the blood vessels by the cells of the tumor and their replacement by these cells. According to Dukeman,[21] the average time when the tumor presents its first symptoms is about five weeks after labor at term, seven weeks after abortion, while after hydatid mole, however, the appearance of the tumor varies from several weeks to five years. In the uncontrollable cases of chorio-epithelioma, the duration of life is from fourteen days to four and one-half years, with an overwhelming majority under one year. According to Frank,[2] six months is far more than the average. Those suffering from chorio-epithelioma malignum do not always die from the tumor itself, but by pulmonary embolism, infection, sepsis, permanent loss of blood, anaemia or cachexia.

The prognosis of chorio-epithelioma is not so bad as would at first seem and the better is it becoming as our operative technique is being improved and our knowledge of the origin and peculiarities of this disease is being widened.

Ewing[23] in a very suggestive article tries to establish a differentiation between so-called benign and malignant chorio-epitheliomatous growths and so names two main types.

First, Chorio-adenoma. The structure of which tumor consists of elongated hypertrophic villi, clothed with actively proliferating cells of both types.

This is the typical form and preserves the glandular idea of function. This type invades the surrounding tissues and produces metastases in the vagina and lungs, which metastases are prone however to undergo spontaneous regression.

Second, Chorio-Carcinoma. In this growth there are no villi present and the tumor cells exhibit a remarkable capacity for growth apart from the villi. Here the metastases are general and show no tendency toward regression.

The fate of the patient may have two absolutely different outcomes.

First. Without operation. There are at least three cases on record of spontaneous cure of chorio-epithelioma. The usual

limit of life without operation is according to Ladinski,[16] within six months after delivery of mole, five months after abortion and four months after full term labor. Even those with metastases in the lungs may get well without operation, at the original focus.

Second. With operation. (A) Incomplete. Patients have recovered with incomplete removal of the growth, one operator leaving a large mass on the bladder wall, which was impossible to remove, and yet the patient recovered. Even repeated curettage only is said to have been curative. Nine cases of recovery are reported after incomplete operation. If the classification of Ewing[23] just spoken of is correct, and these cases were chorioadenoma, the above record of recoveries after incomplete or no operation, is easily understood. (B) Complete operation. The success of this operation depends upon the skill of the operator, the route he selects, the thoroughness of the removal and the amount of injury done the surrounding parts, also whether there are already extensive metastases in other organs more or less removed from the initial focus.

It is necessary also to distinguish between the localized and generalized chorio-epitheliomatous growths in making the prognosis. If a vaginal growth is primary the prognosis is good, as it is apt to be innocent. If secondary, the prognosis is bad. The earlier the recognition of chorio-epithelioma, the better the prognosis.

Schlagenhaufer[7] says the time which it takes metastases to form is of great importance in determining the prognosis. If sufficient time has elapsed, the maternal organs get used to the presence of the foetal elements, and on the other hand the foetal elements lose their energy. According to Kissel,[17] however, if the uterine tissue resistance is in any way impaired, the chorionic elements have a better chance to invade.

The *Treatment* of chorio-epithelioma in the nature of the case is entirely surgical and has varied greatly in the hands of different operators, from curettage to the Wertheim method of panhysterectomy, with removal of the parametrium and lymphatic glands of the pelvis. Curettage if done very carefully may be useful as a means of diagnosis, but even in this it is the experience of numerous operators that in the process of curetting, many times an almost uncontrollable hemorrhage and in

fact in some cases a fatal hemorrhage has been started. Again on account of the extensive erosion of the uterine wall which is characteristic of chorio-epithelioma, it is possible to have an erosion so nearly complete that even in using no more force than ordinary there will be a rupture of the uterine wall by the curette with disastrous results.

It does not seem to the writer that in the majority of instances at least, it is necessary to curette the uterus for diagnosis, as there are usually sufficient clinical symptoms associated with a previous suggestive history that will make the diagnosis practically certain. In the case of a preceding hydatidiform mole, as that of the writer, associated with a highly suggestive group of symptoms such as hemorrhage and foul discharge in between the hemorrhages, with marked prostration and cachexia, there can be no doubt. The uterine wall is sometimes so thin that it even ruptures spontaneously by reason of the pressure of the contained growth. One operator has advised, after the delivery of a mole, the curetting of the uterus in about two weeks, and if this is not decisive, curetting it again in about the same time. If, however, after the second curetting there is any doubt about the diagnosis, the advice is to remove the uterus. Some European operators have been in the habit of removing the uterus and its appendages by the vaginal route. It has been discovered, however, that cases upon which operations have been done by this route, proceed quickly, in spite of operation, to a fatal termination It has further been discovered that the more one manipulates and surgically insults the tissues in the immediate neighborhood of the growth, the more one is likely to have a quick return of the growth and a fatal termination.

There are many and great variations in the course and also in the malignancy of chorio-epithelioma, and in view of the fact that it is not possible to make out the slightest difference histologically between the so-called benign and malignant growth, it is wise to do only such operative work and by such routes as will inflict the least injury upon the parts immediately surrounding and disturb the growth as little as possible so as not to throw diseased material into the circulation.

Operators in this country and in Europe are now accepting, I believe, the abdominal hysterectomy as the operation of choice, and removing only such material as is immediately involved, and,

following the advice of Hitschmann[12] and Cristofoletti, tying off of all veins running away from the uterus before beginning the hysterectomy, the spermatic and hypogastric veins being the ones chiefly concerned.

According to these authors, the determination of the presence or absence of disease in the parametrial veins is of great importance with reference to future metastases. They teach that the parametric infiltration following chorio-epithelioma is really no infiltration, as in the sense of carcinoma, nor is it inflammatory, but is in reality a thrombus composed of the same elements as the tumor itself. This has been proved by opening the thrombi in the veins in the immediate vicinity of the growth and finding them full of tumor masses. If the big veins are thoroughly thrombosed at the time of operation and these thrombi are not disturbed, then the chances of no metastases and a cure following operation are good.

If, however, the big veins are open or only partially thrombosed, at the time of operation, the chances of speedy generalized metastases and early post-operative death are good. Hitschmann[12] and Cristofoletti lay down the maxim that as long as artificial transplantation is avoided at operation, metastases in the lung are very late in appearance if they come at all. We must not refuse operation because the uterus is fixed as it may be so fixed by thrombi in the parametrium. A poorly performed operation also vastly heightens the chances of a patient's early death.

Contra-indications to Operation. There are really none at all. Many operators urge that the presence of metastases, especially of the lungs, is a contra-indication, but there are cases recorded of lung metastases disappearing after operation at the primary focus only. Metastases in the vagina form no contra-indication. The operability of chorio-epithelioma is now conceded to be much greater than that of carcinoma. Hitschmann[12] and Cristofoletti advise making the limits of operability as broad as possible and regard technical operability as the deciding factor. We cannot deny operation to a patient because some few cases may get well if let alone.

Prophylaxis. Being sure of a clean uterus after every full term of labor and abortion will go a long ways. A close inspection of all placentae is strongly advised. Avoid any surgical

interference not absolutely necessary, remembering that the tendency to form thrombi takes place early, and is very great. If radical operation is done, one should avoid as much as possible injuring the adjacent tissues. If malnutrition is a cause, as has been stated, why not in the future take as regular routine, a hemoglobin test and also a red blood count in every case of mole delivery at least, and make repeated tests if necessary.

Its malignancy. We do not understand why, given two cases of chorio-epithelioma exactly alike, one will be rapidly fatal and the other benign. We do not know, unless as has been suggested their course is influenced by an environment of blood clot and thrombi in one case and by operative injury in the other. Hicks[18] thinks chorio-epithelioma is more malignant after full term labor than after operation or mole. Why, he does not state.

Schmauch[1] regards the proliferative tendency of chorio-epithelioma as due to a deficiency of resistance of the maternal organism and not to emancipation of chorionic elements.

The study of chorio-epithelioma I believe to be still in its infancy. It is our duty as practitioners to report every case we meet, and study the various cases by comparison. Clinical symptoms have not previously been sufficiently considered. The early diagnosis of chorio-epithelioma is the greatest of all factors entering into its treatment. Given a case of hydatidiform mole or an abortion, that case should be most carefully watched by the practitioner, who should be very ready to invoke the surgeon's aid.

Findlay[14] says a uterus from which a mole has been expelled should be watched for at least three years. Gebhard[19] says that about one pregnancy in every 728 terminates in hydatidiform mole, while Williams[20] says about one in every 2,400 so terminates.

It was formerly thought that seventy per cent of all mole uteri became choriomatous, but Hitschmann[12] and Cristolofetti report observations on 200 mole uteri in which only seven and one-half per cent developed chorio-epithelioma. Small percentage as this is, however, it is our duty toward patients who have had a hydatidiform mole, to keep them under the strictest surveilance until all possibility of the development of chorio-epithelioma has passed.

A ready knowledge of the symptomatology of chorio-epithelioma and its relation to hydatidiform mole, associated with a keen realization that instant and efficient surgical relief must be at hand to save the patient, will do much toward lessening its present high mortality.

It gives me pleasure to acknowledge at this time, my indebtedness to my esteemed friend, Dr. Malcolm Storer of Boston, for many valuable suggestions in the preparation of this paper.

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OPEN METHOD IN THE TREATMENT OF FRACTURES,

By EDGAR A. VANDER VEER, M. D.,

Attending Surgeon, Albany Hospital.
Professor of Abdominal and Clinical Surgery, Albany Medical College.

Read before the Saratoga County Medical Society, at its Annual Meeting, September 26th, 1911.

The treatment of fractures is one of the oldest of surgical procedures, but during the past twenty-five or fifty years, owing to the advance in other departments of surgery, has not received

the consideration it should. The discovery of the causes of infection and the development of surgical technique, making possible such brilliant operations on the abdominal organs and other parts of the body, have caused the treatment of fractures to remain practically the same as it has been for the past fifty or seventy-five years. But within the past five years the limits of the possibilities of abdominal operations have been reached, and the treatment of fractures is coming into its own again, with the result that the same surgical principles of asepsis are being brought to bear in the treatment of fractures as are employed in other surgical operations. It is possible also that our present-day increased liability to accident may account for our attention being drawn to fractures. I mean by that, automobile accidents, accidents due to the increased travel on railroads and occurring more especially among railroad employees, and, finally, accidents due to the aeroplane; in fact, we have a new fracture—the chauffeur's fracture, due to the cranking of the automobile. All these conditions, I say, have a tendency to increase the number of fractures and to cause us to consider new methods of treatment.

The development of radiography has aided materially in the success of our treatment of these cases, and it is becoming recognized by the profession and the general public that, in hospital practice especially, fracture cases and their treatment should not be relegated to the tender mercies of the interne, but be looked after by the attending surgeon himself. Our courses in fractures and dislocations in the medical schools, formerly one of the principal subjects, which for some years had fallen into a minor place in the curriculum, have once more come into the prominence they deserve.

At the recent meeting of the American Surgical Association, held in Denver, Colorado, the subject of the President's address was "Fractures of the Long Bones," and the second paper on the program was by Dr. Edward Martin, of Philadelphia, Pa., on "The Open Treatment of Fractures." These two papers taken together evoked more discussion than any other symposium presented at that meeting, and it was the concensus of this discussion that at the present time we did not devote enough time to the study of the treatment of fractures. At this meeting, Dr. James Huntington said that four years ago

there were few of the leading surgeons in America who appreciated the merits of the open treatment of fractures sufficiently to discuss it. Now he had found on sending out a circular letter regarding this treatment that 93 per cent. of those to whom he had applied agreed as to the propriety and safety of the operative treatment of recent fractures in the hands of skilled surgeons.

Perhaps no form of fracture is more difficult to treat than that of the long bones, and it is here that the open treatment is especially indicated. By the "open treatment" I mean incising over the site of the fracture, exposing it and bringing the ends of the bones in apposition by means of catgut, silver wire, bone plates, steel plates, etc., making a compound fracture out of a single fracture, but under the most aseptic precautions. During the past three years, it has been my custom, whenever a fracture of the long bones presents, to attempt a reduction of the fracture by means of manipulation, then having a radiograph taken, and if this shows the bones to be in fair apposition, to let well enough alone. If, however, the bones show any disposition to remain out of alignment, I open up at once and bring the bones into apposition by means of Lane's Bone Plates, thus insuring a good result.

I might be pardoned here for relating the history of a case that recently came under my care. It was that of a little boy ten years old who had been run over by a wagon and sustained a fracture of the femur at the junction of the middle and lower third. A radiograph showed the lower third of the femur to be projecting upward and backward and over-ridden for about two inches by the upper fragment. There was an inch and a half shortening. Under an anesthetic, efforts were made to reduce the fracture, but without results. An incision was then made on the anterior surface of the thigh, directly over the seat of fracture, and it was found that a torn piece of muscle had become interposed between the fractured ends of the bone and that it would have been impossible to reduce the fracture by the closed method. With considerable difficulty, the lower end of the bone was drawn down into place and the shaft of the bone held in place by means of the Lane Steel Bone Plates. This boy made an uneventful recovery, except for a slight infection in the wound, which cleared up in the course of a

week. *There was no shortening.* In this class of cases, then, I believe that the open method of treatment is preferable every time to the closed method.

In a great many ways, probably, fracture of the humerus is one of the most difficult fractures that we are called upon to treat, owing to the liability to non-union, faulty position, etc., it being very difficult to apply a proper kind of dressing. In these fractures, the open method of treatment is certainly the ideal one and should be adopted in every case.

For some reason not yet thoroughly explained, liability to infection seems to be increased after a fracture; that is, providing we have either an open wound with which to deal or if we expose the fracture ourselves. For this reason, the concensus of opinion of surgeons is that the open treatment for fractures should not be resorted to until all other methods of manipulation have failed. Just what is the cause of infection is not definitely known—whether the tissues being bruised and torn by the jagged ends of the bone allows the bacteria to enter unresisted, or whether, as seems more probable, the bacteria are transmitted to the injured part by means of the blood stream, has not been thoroughly worked out. These points are now being investigated by the laboratories and we shall soon know the results.

I have found, in talking with lawyers and others, that in the minds of the laity the idea seems to prevail that it is a very simple matter to secure exact apposition of the ends of a broken bone; as a matter of fact, this is not only impossible but not desirable. Callous forms much more quickly and better when the fractured ends are not in exact apposition. By means of the bone plates, the ends of the bone are brought into just close enough apposition to secure the best results. In fact, the x-ray shows us that in those cases where we appear to have a perfect result there is more or less displacement of the bone and that there is not perfect alignment. The x-ray is a very useful appliance, but at the same time a very dangerous one.

In fractures of the patella and of the olecranon process, all other methods of treatment have yielded to the open method. Simply incising over the site of the fracture and bringing the capsule of the fragments together by means of catgut sutures, seems sufficient to unite the edges of the bone in an incredibly

short time. And it was in this class of cases that the open treatment of fractures had its beginning.

The best results have been obtained in the treatment of the long bones, though some operators report marvelous results in treating fractures of the shoulder-joint, elbow-joint and hip-joint. Of course, the treatment of these cases should be undertaken in hospitals, under the most ideal conditions. The ordinary country or city practitioner does not have the facilities necessary to accomplish such work, and to him we must look for the development of the treatment of fractures by the closed method along newer lines.

Ochsner, in his new Clinical Surgery, gives the following reasons for the use of the Lane Plates:

(a) The patient is at once relieved of the pain of any movement of the fragments upon one another.

(b) He is freed from the tension and discomfort due to the extensive extravasation of blood between and into the tissues.

(c) It shortens the duration of the period during which he is incapacitated from work, since union is practically by first intention, and consequently very rapid and perfect.

(d) Lastly, and by far the most important, they leave the skeleteal mechanics in the condition in which they were before the sustained injury.

He, furthermore, says: "This treatment is especially indicated in fractures of the shaft of the humerus and the femur, for in the majority of cases one cannot hold the fragments in accurate apposition with any degree of certainty without operative measures.

"This method of treatment should not be used except in a well regulated hospital where the surgeon can be absolutely certain that every detail of the operation will be carried on in an aseptic manner. It is obvious that where a considerable quantity of metal is to be left in a wound it is necessary that greater aseptic precautions must be taken than in ordinary operations where foreign bodies are not left in the wound. During the past seven years, Lane has demonstrated in hundreds of cases that a fixed foreign body, when introduced in a perfectly aseptic state, does not cause any irritation or trouble,

and that screws placed in bone under aseptic conditions do not cause a rarefying osteritis." In a couple of cases in which I have employed the Lane Bone Plates for fracture of the tibia, it has been necessary to remove the plates at the end of the third or fourth month, owing to the irritating effect which they had not only on the bone itself but on the surrounding tissues.

In conclusion, then, let me say that while I do not wish to be thought as presenting a brief for the hospital treatment of fractures, yet I believe the time is coming, if not already here, when the majority of fracture cases should be sent to the hospital, just as we send our appendicitis cases, etc., for operation. In fact, the majority of appendix operations are a great deal easier to perform than the reduction of a fracture and its proper dressing.

Editorial

The morning being extremely cold, he contrived to be seated as near the fire as was consistent with his other object of having a perfect command of the table and its apparatus; which consisted not only of the ordinary comforts of tea and toast, but of a delicious supply of new-laid eggs, and a magnificent round of beef; against which Mr. Escot immediately pointed all the artillery of his eloquence, declaring the use of animal food, conjointly with that of fire, to be one of the principal causes of the present degeneracy of mankind. "The natural and original man," said he, "lived in the woods: the roots and fruits of the earth supplied his simple nutriment; he had few desires, and no diseases. But, when he began to sacrifice victims on the altar of superstition, to pursue the goat and the deer, and, by the pernicious invention of fire, to pervert their flesh into food, luxury, disease, and premature death, were let loose upon the world. Such is clearly the correct interpretation of the fable of Prometheus, which is the symbolical portraiture of that disastrous epoch, when man first applied fire to culinary purposes, and thereby surrendered his liver to the vulture of disease. From that period the stature of mankind has been in a state of gradual diminution, and I have not the least doubt that it will continue to grow *small by degrees, and lamentably less*, till the whole race will vanish imperceptibly from the face of the earth."

THOMAS LOVE PEACOCK.

Headlong Hall.

An Unpleasant Festival

The establishment of the Bender Hygienic Laboratory, one of Albany's most important institutions, has been attended by an unpleasant and unexpected series of experiences. It was hoped that the appointment of a competent director of the laboratory would relieve its trustees and the community from anxiety as to its administration. This has been true in so far as the work of the directors has been concerned, but the departure of the directors at too frequent intervals has proved rather embarrassing and has served to emphasize the responsibility of the Board of Trustees. Appreciation of the work of each director has been deservedly shown by the farewell dinners offered by their admirers and friends, and although these dinners must have proved a source of satisfaction to the guests of honor on each occasion, they cannot but be regarded as unpleasant to those who remain and on each occasion feel that they are losing the co-operation and intimate intercourse with men who have had their greatest respect. These farewell exercises, if they may be so designated, have been disagreeably frequent, for in the fifteen years of activity of the laboratory its four directors have all been called to other and perhaps higher fields of action. The loss to Albany of Drs. Blumer, Pearce, Wolbach and Ordway has resulted in positive gain to Yale, Pennsylvania, McGill and Harvard, and Albany physicians have only the small comfort derived from the benefit accruing to these sister institutions as a result of the presence in their corps of instruction of the men who have had training here. The ANNALS hope that these occasions will become less frequent, and that the fine opportunity for a combination for clinical and pathological progress offered by Albany as a medical center may be finally accepted and held permanently by a pathologist of equal repute with those who have preceded him in the directorate of the Bender Laboratory.

The departure of Dr. Ordway is a great loss not alone in the Albany Medical College but to the entire medical profession in and around Albany. He came to this city two years ago as Director of the Bender Laboratory and this position brought him into contact with a number of physicians. He was a scientist in the very truest sense of the word, an ardent student and tireless worker. He showed great interest in clinical medi-

cine and one of his ambitions was to bring pathology and medicine into closer relationship. As Professor of Pathology he materially raised the standards in that department and his method of instruction was clear and concise and easily grasped by the student. While he was a hard task-master and stern disciplinarian in college work yet he was always fair and honest and gave the student a solid foundation in pathology on which to build later a permanent structure in medicine and surgery.

As Director of the Bender Laboratory he was most skillful in placing it on a business basis and was fortunate in his choice of assistants. The Laboratory never ran more smoothly and with less friction. Dr. Ordway was appointed Physician-in-Chief of the Harvard Hospital for Cancer Research and left for Boston on October the 19th. Just prior to his departure an informal dinner was given at the Hotel Hampton to wish him God-speed. The following physicians were present: Drs. Adt, Archambault, Ayer, Babcock, Boyd, Bedell, Beilby, Bendell, Bernstein, Berry, Blatner, Carroll, Curtis, Dawes, Donhauser, Draper, Elting, Fromm, George, Gorham, Griffin, Gutmann, C. Hacker, L. Hacker, Harper, Hawn, Holding, Hun, Jenkins, Jupp, Kellert, Kirk, Lawyer, MacFarlane, Merrill, Nellis, Reynolds, Rulison, Root, Sampson, Sautter, Shaw, Southworth, Theisen, Tucker, Albert Vander Veer, E. A. Vander Veer, H. Van Rensselaer, Ward, Winne.

There was no toastmaster or formal speeches but short informal remarks were made by Drs. Ward, Hun, Vander Veer and Gorham. The following lines were written and read by Dr. Shaw as an expression of the esteem in which Dr. Ordway was held by all present:

So you're off to old Boston, dear fellow,
  And you came but a few years ago.
We wish you could stay here forever,
  For we like you, old fellow, you know.
We like a man strong and outspoken,
  We like a man thorough and true,
With a warm beating heart 'neath his waistcoat,
  In short friend—a doctor like you.

You came to our Capitol City
  Like a breeze bearing health on its wings
And we feel that you brought greater riches
  Than the gold and the silver of kings.

And now you must go. Well you leave us
With regrets which are vain and sincere:
For we Albany folk are not given
To wasting regrets on small beer.

You leave us. God bless you, we mutter,
You've been with us too brief a span.
But we thank God that He gave us—
That He gave us a brother—a man.

Dr. Ordway has consented to supervise the work of the Bender Laboratory during the coming year, and will visit Albany from time to time for this purpose. Dr. Bernstein, his assistant, has taken the active management of the laboratory in hand, much to the satisfaction of the physicians who have known him during the last few years as an associate of Dr. Ordway.

Public Health

Edited by Joseph D. Craig, M. D.

DEPARTMENT OF HEALTH—ALBANY, N. Y.

ABSTRACT OF VITAL STATISTICS, OCTOBER, 1911.

Deaths.

Consumption	7
Typhoid fever	2
Scarlet fever	0
Measles	0
Whooping-cough	0
Diphtheria and croup	1
Grippe	0
Diarrheal diseases	3
Pneumonia	6
Broncho-pneumonia	1
Bright's Disease	16
Apoplexy	12
Cancer	12
Accidents and violence	10
Deaths over 70 years	28
Deaths under 1 year	16
Total deaths	143
Death rate	16.83
Death rate less non-residents	14.35

Deaths in Institutions.

	Resident.	Non-resident.
Albany Hospital	7	7
Albany Orphan Asylum	0	0
Child's Hospital	0	0
Albany County Jail	1	1
County House	1	3
Dominican Convent	0	0
Homeopathic Hospital	8	2
Hospital for Incurables	0	0
Little Sisters of the Poor	1	1
Public places	3	1
Penitentiary	0	0
St. Margaret's House	2	2
St. Peter's Hospital	3	3
Austin Maternity Hospital	1	0
Albany Hospital, Tuberculosis Pavilion	0	1
Confederation of Labor	0	0
	27	21
Births		116
Still births		8

BUREAU OF CONTAGIOUS DISEASE.

Cases Reported.

Typhoid fever	8
Scarlet fever	4
Diphtheria and croup	19
Chickenpox	6
Measles	1
Whooping-cough	0
Consumption	21
Total	59

Contagious Disease in Relation to Public Schools.

	Reported. D.	S.F.	*Deaths.* D.	S.F.
Public School No. 2	2	..	..	..
Public School No. 4	..	2	..	..
Public School No. 7	1	..	..	..
Public School No. 9	1	..	..	..
Public School No. 22	..	1	..	..
St. John's School	1	..	..	..
St. Patrick's School	3	1	..	..
St. Mary's School	2	..	..	..

Number of days quarantine for diphtheria:
Longest..... 25 Shortest..... 9 Average..... 14 7/12
Number of days quarantine for scarlet fever:
Longest..... 15 Shortest..... 14 Average..... 14½
Fumigations:
Houses..... 34 Rooms..... 130
Cases of diphtheria reported 19
Cases of diphtheria in which antitoxin was used..... 18
Cases in which antitoxin was not used..... 1
Deaths after use of antitoxin..... 1

Bender Laboratory Report on Tuberculosis

Positive. . .	10
Negative. . .	19
Failed. . .	0
Total. . .	29

Tuberculosis.

Living cases on record Oct. 1, 1911		364
Cases reported during October, 1911:		
By telephone. . .	0	
By Bender. . .	0	
By card. . .	19	
	19	
Dead cases by certificate	2	
		21
		385
Dead cases previously reported	5	
Dead cases not previously reported	2	
Duplicates. . .	0	
Recovered. . .	0	
Removed. . .	2	
Unaccounted for	0	
		9
Living cases on record Nov. 1, 1911		376
Total tuberculosis death certificates filed during October, 1911		7
Out of town cases dying in Albany:		
County Hospital	0	
Tuberculosis Pavilion Albany Hospital	1	
		1
Net city tuberculosis deaths		6

Bureau of Pathology.

Bender Laboratory Report on Diphtheria.

Initial positive	7
Initial negative	48
Release positive	5
Release negative	25
Failed	16
Total	101
Test of sputum for tuberculosis:	
Initial positive	15
Initial negative	24
Failed	1

Bureau of Markets and Milk.

Market reinspections	125
Public market inspections	13
Fish market inspections	7
Pork packing house inspections	2
Rendering establishment inspections	3
Slaughter house inspections	7
Hide house inspections	5
Milk wagons in clean condition	33
Butter fats below 3%	1
Butter fats from 3 to 3.5%	7
Butter fats from 3.5 to 4%	19
Butter fats over 4%	6
Solids under 12%	3
Solids from 12 to 12.5%	7
Solids from 12.5 to 13%	14
Solids over 13%	9

Miscellaneous.

Mercantile certificates issued to children	34
Factory certificates issued to children	15
Children's birth records on file	49
Number of written complaints of nuisances	40
Privy vaults	7
Closets	4
Plumbing	16
Other miscellaneous complaints	13
Cases assigned to health physicians	77
Calls made	195

Society Proceedings

Medical Society of the County of Albany.

A regular meeting of the Medical Society of the County of Albany was held October 11, 1911, at the Albany Medical College at eighty-thirty P. M.

Those present were: Drs. A. J. Bedell, Bellin, Cook, Craig, Douglas, Draper, Druce, Grant, Gutmann, C. G. Hacker, C. W. L. Hacker, Harrig, Holding, Kellert, Keough, Lempe, Lewi, Lomax, MacFarlane, C. H. Moore, C. L. Myers, J. Myers, Murray, G. W. Papen, Sr., G. W. Papen, Jr., Pitts, Harry Rulison, and Traver.

Meeting was called to order by President Bedell. Minutes of last meeting read and approved. The secretary announced that the board of censors had passed upon the name of Dr. H. H. Drake as a candidate for election as a member of the society. It was moved by Dr. Craig that the secretary be instructed to cast one ballot for Dr. Drake, seconded and passed. The secretary announced that the ballot had been cast and that Dr. Drake was elected a member.

The vice-president's address was then given by Dr. M. J. Keough, the title being "Typhoid Fever and Its Complications."

At the close of the address Dr. Curtis said that he wished to thank Dr. Keough personally for presenting so many phases of a most interesting topic and moved that a vote of thanks be tendered Dr. Keough by the society for his most interesting and instructive address. Seconded and passed.

Dr. H. E. Lomax then presented a series of five anatomical anomalies. Dr. Lomax stated that the dissection and preparation of permanent specimens was done entirely by the students in the department of anatomy. The anomalies were illustrated by water color paintings done by Dr. Lomax.

The anomalies presented were:

An assessory tensor fasciæ femoris muscle.

An anomalous cephalic vein.

An accessory abdominal muscle.

An absence of the pectoralis minor muscle on both sides.

An accessory pectoralis minor muscle.

Dr. Craig stated that he thought the society was to be congratulated upon having a member capable of preparing such beautiful drawings of anatomical specimens. The work was primarily done by the students in the regular course in anatomy and they deserved a great deal of credit for their interest as well as for the excellence of their work. With a continuance of this work from year to year it will be only a short time till the Albany Medical College will have a collection of anatomical anomalies equal to any school in the country, since the prepara-

tions as well as the paintings are to become the property of the college museum and are to be used for teaching and demonstrating purposes.

He congratulated Dr. Lomax most heartily upon the results of his endeavor.

The president then announced that nominations were in order for a delegate to the House of Delegates of the State Society, to fill the vacancy made by the expiration of Dr. Ward's term.

Dr. C. G. HACKER nominated Dr. Tiffany Lawyer. Seconded.

Dr. LEMPE nominated Dr. Ward for re-election. Seconded.

Drs. C. W. L. Hacker and Douglas were appointed tellers and Dr. Ward was declared to be re-elected.

The secretary then read two letters from the State Librarian to the effect that if the society would furnish a suitable room the State Library would put the current medical periodicals at the disposal of the profession and would furnish an attendant, the room to be open at such hours as would be mutually agreed upon.

Dr. GUTMANN stated that since the Capitol fire the medical periodicals had been accumulating in the State Library but were not available for use. That this literature was indispensable to the practitioner and also the students of the college and that he felt that the society ought to take up this matter and make some arrangement whereby the physicians of the county could have access to this literature.

Dr. MACFARLANE said that he had ascertained that a room in the building at the corner of Swan street and Washington avenue, now occupied by the State Board of Charities could be obtained and that the only expense would be in the furnishing of shelving and tables.

Dr. GUTMANN moved that the Comitia Minora be instructed to make the necessary arrangements and expenditures to carry this matter through. Seconded and passed.

The secretary then read a letter from the State Education Department calling the attention of the society to the fact that there was at least one case of illegal practice of medicine in the city of Albany.

Dr. GUTMANN speaking for the Comitia Minora stated that as a result of a meeting of the Comitia Minora he had communicated with attorney M. D. Rielly in regard to this matter and that he had signified his willingness to act as counsel for the society.

Dr. RULISON said that if possible he would like to in some way incite the Comitia Minora to take vigorous action in this matter since in his opinion the society had been negligent in this direction in the past.

Meeting was adjourned upon motion.

A. J. BEDELL, *President.* EDWIN L. DRAPER, *Secretary.*

Medical News

Edited by Arthur J. Bedell, M. D.

The Albany Guild for the Care of the Sick—Department of Visiting Nurses—Statistics for October, 1911.—Number of new cases during the month, 114, classified as follows: Dispensary patients receiving home care, 3; district cases reported by health physicians, 3; charity cases reported by other physicians, 30; moderate income patients, 70; metropolitan patients, 8; old cases still under treatment, 96; total number of cases under nursing care during month, 210. Classification of diseases for the new cases: Medical, 22; surgical, 3; gynecological, 5; obstetrical under professional care, mothers, 34; infants, 34; eye and ear, 1; skin, 0; throat and nose, 0; dental, 0; infectious diseases in the medical list, 9; infectious diseases in the surgical list, 0. Disposition, removed to hospitals, 3; deaths, 4; discharged, cured, 92; discharged, improved, 3; discharged, unimproved, 5; number of patients still remaining under care, 103.

Special Obstetrical Department.—Number of obstetricians in charge of cases, 2; number of students in attendance, 2; number of nurses in attendance, 2; number of patients carried over from last month, 0; number of new patients during month, 3; number of patients discharged, 1; number of visits by head obstetrician, 4; number of visits by the attending obstetrician, 0; number of visits by students, 8; number of visits by nurses, 15; total number of visits for this department, 27.

Visits of Nurses (all departments).—Number of visits with nursing treatment, 937; for professional supervision of convalescents, 362; total number of visits, 1,299; cases reported to the Guild by 3 health physicians, and 34 other physicians; graduate nurses 6 and pupil nurses 7 on duty.

Dispensary Report.—Number of clinics held, 85; number of new patients, 169; number of old patients, 275; total number of patients treated during month, 444. Classification of clinics held: Surgical, 13; nose and throat, 6; eye and ear, 14; skin and genito urinary, 7; medical, 12; lung, 8; dental, 0; nervous, 4; stomach, 1; children, 13; gynecological, 7.

Meeting of the State Department of Health.—The eighth annual conference of health officers in the State of New York was held in New York City, on November 1, 2 and 3. Dr. Eugene Porter, State Commissioner of Health, presided and the address of welcome was made by Dr. Ernest G. Lederle, Health Commissioner of New York City. The subjects discussed in the first day's session were: "The registration of Communicable Diseases," "Quarantine in Cities and Rural Communities," "Disinfection" and "The Control of Syphilis and Gonorrhea." Dr. Frederick B. Willard, of Buffalo, called attention to the dangers of contagion from street cars and urged proper disinfection for trolley cars all over the State. He also urged the enactment of laws prohibiting the

dry sweeping of all cars, and thought such a law ought to apply to all public places, whether conducted by the State, municipality or individual.

On Thursday, the conference consisted of a discussion of "Interstate Health Problems," which included the subjects of "Stream Pollution" by Dr. Laurence McCullough, of the Ontario Health Department, who advocated the creation of an International Waterway Commission, to prevent the careless dumping of sewage into the rivers between this country and Canada.

The recommendation was made that a dated label should be attached to every package of cold storage food.

Mr. Robert Lynn Cox, counsel for the Association of Life Insurance Presidents, discussed the topic of "A Clearing House of Health Departments." A paper on "Vital Statistics and How to Get Them" was read by Dr. William H. Guilfoy, Registrar of the New York City Department of Health. Dr. Charles E. Walton, of Cincinnati, spoke on the topic of "The Doctor and the Health Officers as Co-laborers."

The Friday session consisted of a discussion on "Research in Public and Private Laboratories" by Simon Flexner. Dr. W. S. Magill made a plea for the more general and the earlier use of antitoxin in diphtheria.

Sanitary Officers Meet.—The Second Annual Convention of the New York State Sanitary Officers' Association was held in New York City, October 24. Nearly all of the 1,400 sanitary districts in the State were represented at the meeting. A resolution was passed and copies sent to all members of the legislature denouncing the action of the recently adjourned legislature in passing bills appropriating thousands of dollars for the prevention of disease among cattle and hogs, while they cut down the appropriation for the care of human beings suffering from tuberculosis. They also called the attention of the legislature to the need of uniform laws on such matters as the regulation of spitting on sidewalks and public places, and the lack of uniformity on the treatment of insane patients.

New Medical Directory.—The Medical Directory of New York, New Jersey, and Connecticut for the year 1911 has recently been issued. The total number of physicians in the three States is 17,624; 13,641 are in New York State; 2,852 in New Jersey, and 1,401 in Connecticut. Of the 13,641 in New York State, 5,093 are residents in Manhattan and the Bronx, 1,884 in Brooklyn, 205 in Queens and 76 in Richmond, making a total of 7,249 in New York City.

New York State Legislature.—The New York State Legislature of 1911 enacted the following laws of interest to the medical profession:—

Established the hospital for malignant diseases (cancer laboratory), in Buffalo.

Forbidding the indiscriminate sale of hypodermic needles and syringes.

Changing the method of making death returns, so that the undertaker has the responsibility, except as to the cause of death.

Regulating cold storage warehouses as to the reception, stamping and sale of products. And most important of all,

To prevent the pollution of the waters of the State.

Red Cross Seal Approved by Labor Unions.—Direct approval of the campaign for the sale of Red Cross Seals has been given by the American Federation of Labor, according to an announcement made to-day by the National Association for the Study and Prevention of Tuberculosis.

At the last annual convention of the American Federation of Labor, a resolution was adopted calling on all the members of the Federation to further the sale as much as possible. The resolution reads as follows:—

"Whereas, the American Federation of Labor has in every possible way aided the movement for the study and prevention of tuberculosis throughout the United States and Canada, and

"Whereas, the American National Red Cross has been in the past and is now making an especial effort, through the sale of the Red Cross Christmas Seals, to secure funds to carry on the war against tuberculosis, and by means of the funds raised in this manner has been able to do much effective work in this direction, therefore, be it

"Resolved, that the American Federation of Labor give its endorsement to the movement of the American National Red Cross, and encourage its members to further every reasonable way the sale of these seals in their respective communities."

There are now four special methods by which consumptive workingmen in the United States are being cared for. In such cities as Albany, Elmira and Binghamton, N. Y., the unions support a separate pavilion or hospital. In cities, like Hartford, New Britain and South Manchester, Conn., the workmen contribute towards the maintenance of a fund for the care of consumptives. There are also two national sanatoriums, for the treatment of tuberculosis, owned and operated by labor unions; one by the International Typographical Union, and the other by the Printing Pressmen and Assistants' Union. In Massachusetts, Illinois, and elsewhere large corporations and manufacturers have agreed voluntarily to care for all their consumptive employees for a limited length of time.

"But as long as consumption kills one in every three workingmen between the ages of fifteen and forty-five," says the National Association for the Study and Prevention of Tuberculosis, "more education, better shop and home conditions, and more hospitals are needed. Red Cross Seals provide these things."

Army Medical Corps Examination.—The Surgeon-General of the Army announces that preliminary examinations for the appointment of first lieutenants in the Army Medical Corps will be held on January 15, 1912, at points to be hereafter designated.

Full information concerning these examinations can be procured upon application to the "Surgeon-General, U. S. Army, Washington, D. C." The essential requirements to securing an invitation are that the applicant shall be a citizen of the United States, shall be between twenty-two and thirty years of age, a graduate of a medical school legally authorized to confer the degree of doctor of medicine, shall be of good moral character and habits, and shall have had at least one year's hospital training as an interne, after graduation. The examinations will be held concurrently throughout the country at points where boards can be convened. Due consideration will be given to localities from which applications are received, in order to lessen the traveling expenses of applicants as much as possible.

The examination in subjects of general education (mathematics, geography, history, general literature, and Latin) may be omitted in the case of applicants' holding diplomas from reputable literary or scientific colleges, normal schools or high schools, or graduates of medical schools which require an entrance examination satisfactory to the faculty of the Army Medical School.

In order to perfect all necessary arrangements for the examination, applications must be complete and in possession of the Adjutant-General at least three weeks before the date of examination. Early attention is therefore enjoined upon all intending applicants. There are at present sixty-four vacancies in the Medical Corps of the Army.

Clinical Congress.—The second annual meeting of the Clinical Congress of Surgeons of North America was held in Philadelphia, November 7-16, 1911. The work of the congress consisted of day and evening sessions; the day sessions were devoted entirely to Surgical Clinics conducted in all hospitals in the city from nine in the morning until five in the afternoon. The evening literary sessions were conducted largely by men from out of the city, who presented papers on surgical subjects, many of the lectures being illustrated by stereopticon views. Both the literary and the clinical sessions were exceedingly interesting and well attended.

The first evening, Wednesday, November 8, was devoted to the reading of the following papers: "Surgical Pathology of the Stomach and Duodenum," by Dr. J. F. Binnie, Kansas City, Missouri. "Surgery of the Liver and Bile Ducts," by Dr. George E. Brewer, New York City. "Surgery of the Pancreas," by Dr. Maurice H. Richardson, Boston.

The second evening, Thursday, November 9, was occupied with the president's address on "Co-ordination of Undergraduate and Postgraduate Teaching of Clinical Surgery," by Dr. Albert J. Ochsner, Chicago. Addresses on "The Technique and Remote Results of Blood-vessel Anastomoses," by Dr. Alexis Carrel, New York City; "Cancer of the Stomach, Its Surgical Cure," by Dr. William J. Mayo, of Rochester, Minn., were given with lantern slides.

At the Friday evening session of November 10, neurologic subjects were discussed, the chief papers being on "The Technique and Results

of Deep Injections of Alcohol for Ticdouloureux," by Hugh T. Patrick, of Chicago. "Surgery of the Pituitary Body," by Dr. Harvey Cushing, of Baltimore, Md. "Operative Treatment of Experimental Lesion of the Spinal Cord Equivalent to the Crush Injury of Fracture Dislocation of the Spinal Column," by Dr. Alfred R. Allen, of Philadelphia.

At the fourth evening session of Monday, November 13, Dr. Charles H. Mayo presented a paper with stereopticon views on "The Thyroid Gland and Its Diseases." Dr. Joseph A. Blake, of New York City, discussed "The Operative Treatment of Fractures." Dr. John M. T. Finney considered the subject of "The Significance of Blood in the Stools."

The evening session of Tuesday, November 14, was devoted to pediatrics. Dr. Charles L. Scudder, Boston, read a paper with lantern demonstration on "Pyloric Stenosis in Infancy, Its Surgical Treatment." Dr. Charles M. Dowd, New York City, discussed "Some Differences Between the Surgery of Children and Adults," with lantern demonstration. Dr. R. Tunstall Taylor, of Baltimore, gave a preliminary report on "Orthopedic Surgery."

Obstetrics was the subject of discussion in the literary session of Wednesday, November 15. Dr. Edward Reynolds, of Boston, spoke on the "Surgery of the Tubes and Ovaries." Dr. Edward B. Cragin, New York City, discussed "The Treatment of Ectopic Gestation." Dr. John A. Sampson, Albany, N. Y., gave an address with lantern demonstrations on "The Circulation of Fibroid Tumors." On the same evening there was a combined meeting of the Sections of Otology, Laryngology and Ophthalmology, at which Dr. Joseph H. Bryan, Washington, D. C., read a paper on "The Surgery of the Sinuses and Its Relation to Orbital Complications." Dr. Gorham Bacon, New York City, discussed "The Relation between Otitic and Intracranial Diseases." Dr. John E. Weeks, New York City, described "The Newer Operations for Glaucoma." The clinical program included operations and demonstrations at practically all the hospitals of Philadelphia.

The following officers were elected at the business session: President, Dr. D. Edward Martin, Philadelphia; vice-president, Dr. George E. Brewer, New York City; general secretary, Dr. Franklin H. Martin, Chicago (re-elected), and general treasurer, Dr. Allen B. Kanavel, Chicago (re-elected).

Medical Society of the County of Schenectady.—A regular meeting of the Medical Society of the County of Schenectady was held at the Mohawk Club, Corner Union and Church Streets, Thursday, November 16th, 1911, at 8.30 P. M. Dr. J. M. W. Scott spoke on "An Outline of the Anatomy and Physiology of the Heart." Dr. A. Grussner read a paper on "Blood Pressure." Dr. S. B. Ward, of Albany, N. Y., read a paper on "Myocarditis, Its Results and Treatment."

Tuberculosis Hospital Accepted by Poughkeepsie. — The $50,000 tuberculosis hospital which Mrs. Samuel W. Bowne, of New York City, presented the city of Poughkeepsie, was dedicated on November 15th, as a memorial to Mrs. Bowne's husband. The presentation on behalf of Mrs. Bowne was made by Rev. Dr. MacMullen, of the Madison Avenue M. E. Church, New York City, and was accepted on behalf of the city by Mayor John K. Sague.

The building is considered one of the most complete tuberculosis hospitals in the State.

South End Dispensary.—The annual meeting of the South End Dispensary was held November 21, 1911, and the following officers were elected: President, Charles Gibson; vice-president, Maj. Charles J. Buchanan; secretary, Dr. Leo H. Neuman; treasurer, E. B. Cantine; directors, Charles Gibson, Albert Hessberg, P. C. Dugan, E. N. Huyck, Charles May, Charles J. Buchanan, Mayor James B. McEwan, Dr. Leo H. Neuman, J. B. Lyon, Francis Shields, E. Palmer Gavit, Dr. Charles E. Davis, Dr. A. G. Root, John Bowe and George Welch. The inspectors of election were Charles Friend and Dr. James N. Vander Veer.

Personals.—Dr. Charles T. LaMoure (A. M. C. '94), has been appointed Superintendent of Gardner State Colony, Gardner, Mass.

—Dr. J. Howard Branan (A. M. C. '03), of 133 Second street, Albany, N. Y., has removed to 289 Clinton avenue.

—Dr. Bransen K. DeVoe (A. M. C. '04), is recovering from an attack of typhoid fever.

—Dr. Claude Bledsoe (A. M. C. '10), is now located at Elm and Spring streets, Gloversville, N. Y.

—Dr. Percy H. Finch (A. M. C. '11), is engaged in active practice at Broadalbin, N. Y.

—Dr. Frederick L. Kreicker (A. M. C. '11), is engaged in active practice at Averill Park, N. Y.

Married. — Dr. George Emery Lochner (A. M. C. '89), and Miss Florence Countryman, of Albany, N. Y., were married at Stottsville, N. Y., on November 28, 1911. Dr. and Mrs. Lochner will reside at 196 State street, Albany, N. Y.

In Memoriam

John W. Warner, M. D.

Dr. John W. Warner, died at his home in Saratoga Springs on October 23, 1911. Dr. Warner went to Saratoga in 1898, after having retired from general practice at this time on account of poor health. Prior to that he had been in the active practice of his profession in New York City for fifty years. Dr. Warner was in his 89th year, having been born at Cambridge, Washington County, in 1823. He received his medical education at the Albany Medical College, from which he was graduated in 1847.

Dr. Warner was twice married, his first wife being Miss Laura Blair of Broadalbin, N. Y., and his second wife Miss Catherine Dudgeon. Dr. Warner was a member of the First Presbyterian Church and a Mason; he was affiliated with the New York Academy of Medicine, the New York State Medical Association, the Saratoga County Medical Association, the Society for the Relief of the Widows and Orphans of Medical Men in New York City, the Pathological Society of the State of New York, and the New York State Mutual Aid Association.

D. C. MORIARTA.

Jehiel Lefler, M. D.

Jehiel Lefler, the dean of the medical profession, and one of Johnstown's best known and esteemed citizens, died at his home in that city, October 21, 1911. Death was due to a general break down in health.

Dr. Lefler was one of Johnstown's most successful physicians. He was an excellent general practitioner, highly esteemed in the community and more especially among the families where he was best known.

He was 68 years of age, having been born on the twenty-second of April, 1843, at Tribes Hill, Montgomery County, N. Y., and was educated in the public schools. He entered the office of Dr. Samuel Pettingill of Tribes Hill, in 1860, for the study of medicine, later studying with Dr. Newman of that place and subsequently taking up his profession with the late Dr. Francis Burdick, one of the most prominent and skilled physicians of Johnstown. Dr. Lefler entered the Jefferson Medical College at Philadelphia for a course of study, and graduated from the Albany Medical College in 1864. After practicing as an assistant to Dr. Burdick, he was admitted to a full partnership on the first day of May, 1868, which was continued until 1872. During the latter year Dr. Lefler began to practice on his own account and had a successful career, building up an extensive practice which he maintained, and it was in the community where so much of his active life has been spent. Dr. Lefler has ever received evidences of the confidence and respect of his fellow citizens.

In the death of Dr. Lefler, Johnstown loses a good citizen, and capable member of the medical profession, who has shown himself worthy of the confidence and esteem which had been accorded him. Dr. Lefler was a member of St. Paul's Lutheran church and is the last of the committee who had charge of the building of the present structure. He was also a member of St. Patrick's lodge, No. 4, F. & A. M. His personal tastes were simple and domestic and to those who knew him best, his passing will be a great shock.

Dr. Lefler married, October 25, 1871, Josephine L., only daughter of Captain B. J. and Margaret Hays of Johnstown. Mrs. Lefler died April 12, 1910.

Christopher C. Reid, M. D.

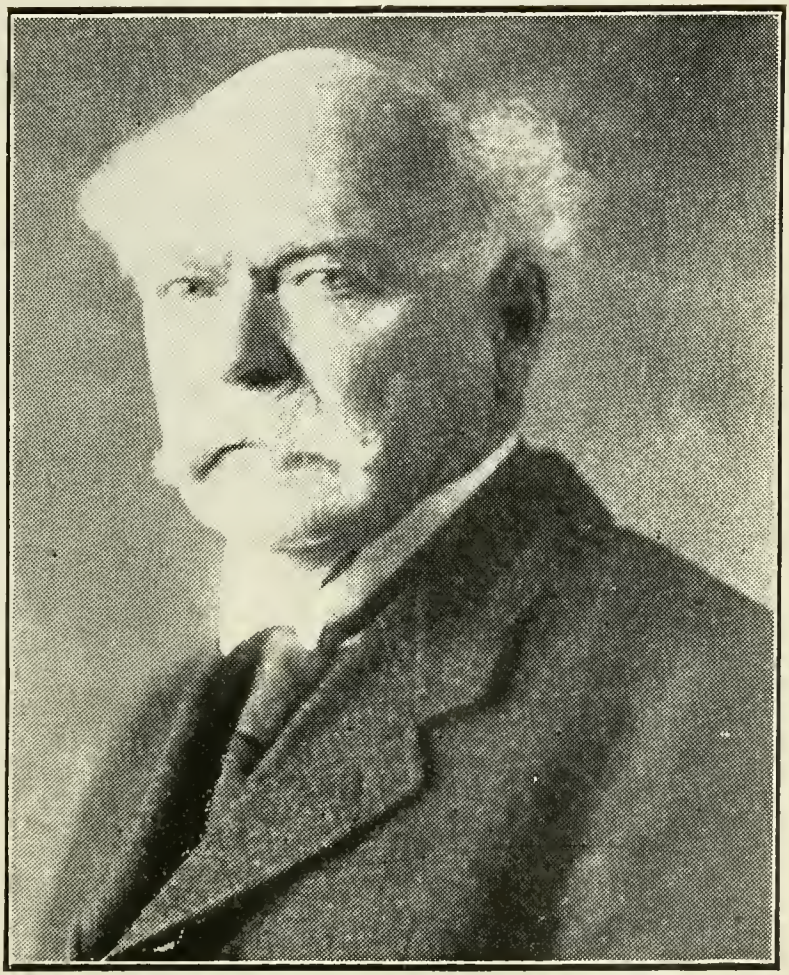
Dr. Christopher C. Reid, a leading member of the medical profession and an honored and esteemed resident of Rome, N. Y., died on September 29, 1911, at his home. Several months before the burden of years began to show on his normally robust constitution and he had been in failing health since. He was confined to his bed for a week, and to those around him his death was not unexpected. Dr. Reid fell from a street car in Utica about five years ago, receiving an injury to his head which was thought to have been the beginning of his decline.

Dr. Reid was born in the town of Westmoreland, Oneida county, November 1, 1838, and he was the sixth in a family of fifteen children of James and Rebecca (Robinson) Reid, who were born of Scotch parentage in the north of Ireland. James and Rebecca Reid, after their marriage in their native country, came to America about the year 1837, and first settled in Kirkland, N. Y., and subsequently moved to a farm in Westmoreland. Mrs. Reid died in 1879, aged about 79, and Mr. Reid died in Albion, in November, 1887, aged 87 years. Thirteen of their children attained maturity.

Dr. C. C. Reid left home at the age of nine years to live with his uncle, Christopher, in Kirkland, where he was reared on a farm. He was a graduate of old Whitestown Seminary in 1862, and while attending that institution began the study of medicine with Drs. Henderson, father and son. After graduation, he went to Albany and read medicine, under Dr. William Bailey, and was graduated from the Albany Medical College in 1864. The same year he commenced the practice of his profession in the town of Western, north of Rome, and there he remained till 1870. He built up a wide and most successful medical practice and was recognized as one of the foremost in the profession. He was a member of and one of the founders of the Oneida County Medical Society, and of the New York State Medical Association. He was the first president of the Rome Medical Society, which he was largely instrumental in forming in 1895. In 1876 he was appointed examining surgeon for the N. Y. C. & H. R. R. R. Co., holding that position for twenty-five years, his labors in this capacity extending the entire length of the road and often outside the state. For many years he was consulting physician for the Rome Hospital. He was long a director in the Rome Brass and Copper Company, holding the position at the time of his death, and was one of the originators and the first president of the Washington Street Opera House Company, serving as president two terms during the building of the opera house, 1888–89.

Dr. Reid joined the Masonic fraternity in Vienna, and at the time of his death was a member of Roman Lodge, No. 223, F. & A. M., and of Rome Commandery, No. 45, Knights Templar. In 1879 Dr. Reid visited Europe and traveled extensively over Great Britain and the continent, and in his travels he visited many hospitals and medical institutions.

April 4, 1893, he married Katherine Melissa Spencer Chapman, daughter of the late Harvey D. Spencer of this city, who died June 22 last. Dr.



CHRISTOPHER C. REID, M. D.

Albany Medical Annals
December, 1911
By courtesy of the Rome Sentinel.

Reid was a member for years of the Fort Schuyler Club of Utica and of the Rome Club, and was a director in a number of Rome's manufacturing enterprises. He was one of the incorporators of the Home for Aged, Indigent and Infirm of Rome, April 23, 1909.

It was through the liberal generosity of Dr. Reid that the Rome Hospital has the handsome Nurses' Home and operating room connected with that worthy institution, and it was the evening of November 15, 1905, that he turned over to the board of lady managers of that institution the completed home, which cost $15,000, Dr. Reid furnishing all but $2,350.

In March, 1909, Dr. and Mrs. Reid purchased ten acres of ground in North James street, on which they erected a handsome clubhouse, and which was turned over to the city in the summer of 1910, free from debt, for a playground for the Rome girls and boys, and the good that has been derived from this magnificent gift the last two seasons can best be told by the boys and girls of the city. It was given in memory of their son, Franklyn, who died November 5, 1908. Dr. Reid was one of the principal owners of the Arlington Hotel Block.

Dr. Reid is survived by two brothers and two sisters, Frank Reid of Union Square and Dr. Edward Reid of Rome, Mrs. Marglaret Rowel of Camden and Mrs. Jennie Hess of West Amboy.

Current Medical Literature

REVIEWS AND NOTICES OF BOOKS

TUBERCULOSIS

Edited by Arthur T. Laird, M. D.

Tuberculous Cervical Adenitis. A Study of the Tubercle Bacilli Cultivated from Fifteen Consecutive Cases.

Paul A. Lewis. *Journal of Experimental Medicine, No. 1, Vol. XII, January 1, 1910, Page 38.*

At the suggestion and under the immediate supervision of Dr. Theobald Smith, Lewis isolated tubercle bacilli from fifteen cases of tuberculous cervical adenitis by inoculation of surgical material into guinea pigs and cultivating upon Dorset's egg medium, subculturing on Dorset's egg medium and glycerine agar. Later continuing on glycerine agar. Character of growth was tested on 5% glycerine bouillon, 2% acidity.

Virulence for rabbits and in three cases virulence for calves was determined. A detailed account of each case is given. The chief differential characteristics between human and bovine tubercle bacilli are (1) morphological differences when grown on coagulated dog serum. The bovine bacilli are short, straight, plump and stain solidly; the human bacilli are longer, frequently curved, thinner, and when stained are often beaded.

(2) The initial cultivation is more difficult from bovine than from the human source.

(3) On glycerine bouillon the "human" bacilli grow as a thick, wrinkled membrane from the beginning which tends to spread rather slowly and thickens about as quickly as it spreads. A favorable culture of bovine origin spreads rapidly as a thin, translucent membrane over the whole surface; if long under cultivation it may thicken and resemble human variety, but if recently isolated either thickening does not occur or develops in irregular lines and spots.

(4) Inoculation disease from the bovine bacillus in young cattle or in rabbits always tends to become general; while human bacilli inoculated similarly in like dosage tend to produce local chronic disease. The bacilli isolated from nine cases killed rabbits which showed generalized tuberculosis, while in the other six cases the bacilli were non-virulent for rabbits, and at autopsy localized tuberculosis only was found.

The six cultures which failed to kill rabbits grew luxuriantly on glycerine agar and with a heavy membrane on glycerine bouillon. The nine strains virulent for rabbits grew to a varying extent on glycerine agar and agreed more or less exactly with the type of bovine growth above referred to; that is, these virulent strains were established in cultures with more or less difficulty and in two instances with imperfect success.

The result of growth in glycerine bouillon of the six non-virulent human cultures was typical as regards the acid end reaction characteristic of the human type, except in one case. Lewis cites the culture of Duval's and of Ravenel's of the human type which are also recorded exceptions to the rule of Smith, that the human type of tubercle bacillus gives a distinctly acid end reaction on glycerine bouillon.

Lewis suggests that cultures of the bovine type when recently isolated from the human body present an abnormal reaction curve in glycerine bouillon.

A careful analysis of the clinical data showed no distinctive features between the group of cases in which the human and bovine types of bacilli were found in respect to the lesion, number of bacilli present, duration or recurrence of the disease, family history, previous history or present condition of patients. The average age of eight patients giving the bovine type was 8½ years, youngest 18 months, oldest 18 years. Average age of six patients showing human type of bacillus was 17⅔, oldest 32, and youngest 8 years. Hence, bovine type of infection would seem to be more common in children and human in the young adults.

Summary.—Fifteen consecutive cases of primary tuberculous cervical adenitis resulted in the isolation of 9 cultures of bacillus tuberculosis of the bovine tyype and 6 of the human type. Classification was made on the basis of adaptability to artificial cultivation, character of growth on glycerine bouillon, virulence for rabbits, and in three instances virulence for calves. With few exceptions results of determination of reaction changes in glycerine bouillon, are in general accord with the classification as based on other characters.

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Vol. XXXII No. 1

ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the
Albany Medical College

JANUARY, 1911

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ALBANY MEDICAL ANNALS

Journal of the Alumni Association of the Albany Medical College

ALUMNI COMMITTEE:

A. VANDER VEER, M. D. W. G. TUCKER, M. D. ANDREW MACFARLANE, M. D.

EDITED BY

J. MONTGOMERY MOSHER, M. D.

Published on the First of every month
Subscription Price, Two Dollars per annum in advance
Advertising Rates given on Application

Address all communications to ALBANY MEDICAL ANNALS,
170 Washington Avenue, Albany, N. Y.

Entered as Second Class matter at the Post Office, Albany, N. Y.

Vol. XXXII, No. 1 January, 1911

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